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ABSTRACT

A report is presented of the findings from a three-year project to train 40 correctional officers as behavioral change agents. The project had two objectives: (1) to encourage the officers to view the institution as a rehabilitative instrument, predisposing them to learn to use alternatives to punishment and become treatment-oriented, and (2) to teach the officers the fundamental principles and techniques of behavior modification in such a way that they would generalize and be applied to on-the-job situations in a prison setting. Data indicate that both objectives were achieved with the first groups of officers. Trained officers were able to identify specific behaviors with which to work and, under supervision, were able to implement behavior modification projects. When systematically observed on their jobs, trained officers interacted more frequently and positively with inmates than non-trained officers. Inmate evaluators listed trained officers as increasing in general caliber, being less punitive and more concerned with the inmates' welfare. (Author)

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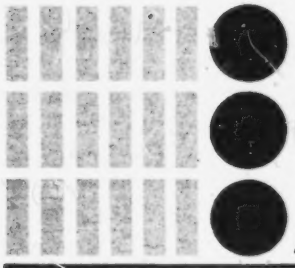


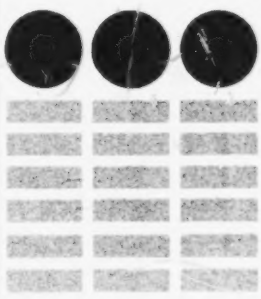
A TECHNICAL REPORT

CORRECTIONAL OFFICER TRAINING IN BEHAVIOR MODIFICATION:

FINAL REPORT (1970-1973)

EXPERIMENTAL
MANPOWER
LABORATORY FOR
CORRECTIONS

June, 1973



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Submitted to Seymour Brandwein, Associate Director of the Office of Research and Development, and to William Throckmorton, Project Officer, by John M. McKee, Director, Experimental Manpower Laboratory for Corrections, Rehabilitation Research Foundation, P. O. Box 3587, Montgomery, Alabama 36109.

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A 17-booklet, illustrated, self-instructional training package and accompanying instructor's guide were developed from the project.

16. Abstracts

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CORRECTIONAL OFFICER TRAINING IN BEHAVIOR MODIFICATION: FINAL REPORT (1970-72)

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Experimental Manpower Laboratory for Corrections
Rehabilitation Research Foundation
Montgomery, Alabama 36109
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ABSTRACT

This report presents the findings from a three-year project of the Experimental Manpower Laboratory for Corrections (EMLC) which trained correctional officers as behavior change agents. This experimental training project had two objectives: (1) encourage correctional officers to view the institution as an instrument of rehabilitation, predisposing them to learn to use alternatives to punishment and become treatment-oriented line staff, and (2) teach the officers the fundamental principles and techniques of behavior modification in such a way that they would generalize and be applied to on-the-job situations in a prison setting. Two methods of instruction were used. The first was a seminar discussion in which two groups of 15 officers each were given instruction in the basic principles and techniques of behavior modification. These officers were then compared across pre and post measures to a group of 15 non-trained officers. The third group of officers (10) was trained by means of self-instructional booklets developed from the experiences of training the first two groups of officers. The third group was also compared across pre and post measures to a control group of 10 additional officers.

Practicum exercises were conducted by the first two groups of trained officers, testing their ability to take what was learned in the classroom about behavior modification and apply it on the job in their daily institutional routines. The third group of trained officers was unable to begin their practicum exercises due to a shift in administration at the institution during training and a subsequent shift in institutional requirements. The amount of time to train each of the groups varied, partly due to the nature of the third group's medium of instruction (self-instructional booklets). The first two groups spent about 90 hours in classroom and practicum phases; the third group spent approximately 30 hours in classroom and discussion sessions.

Data indicate that both objectives of the project were achieved with the first two groups. These trained officers were able to identify specific behaviors with which to work and, under supervision, were able to implement behavior modification projects. Perhaps the most significant outcome was that all three groups of trained officers, when systematically observed on their jobs, interacted more frequently and more positively with inmates than did non-trained officers. Also, inmate evaluators listed trained officers more often than non-trained officers as increasing in general caliber (overall effectiveness), being less punitive, and showing more concern with the inmates' welfare.

While observations and inmate evaluations discriminated between trained and non-trained officers, several standardized scales used to measure various psychological traits, such as fear, anxiety, custody versus treatment orientation, and perception of internal or external control of reinforcement, made no such differentiation.

INTRODUCTION

The contemporary correctional officer is faced with two apparently conflicting responsibilities or roles. The first is the traditional custody role, which includes maintaining the security of the institution and insuring discipline. The second is a relatively newer role, calling upon the officer to actively participate in the rehabilitation process operative at the institution. Attempts to merge these roles have generally been unsuccessful, however, because administrations have not been given a clear mandate for treatment and because the custody and punitive role offers the path of least resistance. Thus, correctional officers continue to act as custody agents, and correctional programs fail to change undesirable inmate behavior to more socially approved behavior.

Much of this failure to effect positive behavioral change is the result of the institutional environment. There are three general environmental characteristics, currently operative in most correctional institutions, which lead to learning and maintaining most criminal behavior. Akers, Burgess, and Johnson (1968) point out that in environments which produce criminal behavior:

> (1) There is a high level of deprivation with regard to a wide range of reinforcers, conditioned and unconditioned, social and nonsocial. (2) Persons residing in these environments are likely to lack the behavioral repertoires necessary to obtain reinforcers legitimately. These persons have not been reinforced adequately for conforming behavior in the past and are not now. (3) A subculture generally has emerged in which social reinforcers such as approval, status and prestige may be contingent upon the recurrence of deviant behavior...[p.461].

All aspects of inmate behavior are controlled and regimented in correctional institutions. Inmates are deprived of most of their personal possessions, many of their civil rights, their social status, their means of obtaining various reinforcers, and their privacy–all so that they can be managed more efficiently and safely by the administration. Because of the concern for administrative expediency, those behaviors that could be classified as showing initiative, self-reliance, and self-determination are extinguished, while inappropriate responses are reinforced. Additionally, as Clemmer (1940, 1964) so vividly points out, the behavior of inmates is under the control of the social system with which they have most frequent contact–the inmate system. This system provides the inmate with reinforcers, usually contingent upon behaviors which would not be approved by either the institution or society, e.g., gambling, homosexuality, causing disruptive behaviors.

Thus, the contingencies present within the contemporary institution serve to maintain, shape, and/or strengthen those behaviors which the institution was devised to weaken, change, or extinguish (Skinner, 1957; Scott, 1964; Bandura, 1965, 1969; Homme, 1965; Gluck, 1966; Patterson & Reid, 1970; Milan, 1971). Coupled with the resultant protracted withdrawal of the customary incentives for maintaining complex behavioral repertoires, a progressive loss of social, vocational, and educational competence makes it less probable that the released inmate will be capable of engaging in socially acceptable means of earning a living or of dealing with the simplest problems of the outside world.

Correctional administrations generally fail to take into account ways in which appropriate behavior changes can take place in the controlled institutional setting and, as a result, fail to utilize the proximity of the officer to the inmate to facilitate behavior change. Since punishment, e.g., taking away inmates' possessions, etc., is the clearer of the conflicting roles for correctional institutions, officers are not trained in the requisite skills to fulfill a rehabilitative role. Where training does occur, it all too frequently strengthens the belief that effective behavioral control requires punishment, consequently doing little to end punitive practices. Documented results of this type of training testify to the failure of corrections to rehabilitate (Glaser, 1964; American Correctional Association, 1966; Meninger, 1968; Joint Commission on Correctional Manpower and Training, 1969; Clark, 1970; President's Task Force on Prisoner Rehabilitation, 1970; and Advisory Commission on Intergovernmental Relations, 1971).

The first step in fulfilling the rehabilitative role of the contemporary correctional institution, then, is to suggest restructuring the institutional environment to meet both the needs of inmate rehabilitation and custody. Simultaneously, all staff need to be trained in new techniques of behavior control which limit their reliance on punishment and take advantage of the institutional restructuring.

Based upon the demonstrated effects of operant conditioning and behavior modification techniques in a wide variety of applied settings (Ullman & Krasner, 1965; Cohen, Filipczak, & Bis, 1967; Ayllon & Azrin, 1968; Phillips, 1968; Tyler & Brown, 1968; Coleman & Baker, 1969; Boren & Coleman, 1970; Krasner, 1970; DeRisi, 1971; Patterson, 1971; Phillips, Fixsen, & Wolf, 1971), it appears the extension of the behavioral model to the adult correctional setting is long overdue. Similarly, the rationale for teaching correctional officers to be more than keepers and impersonal guards has often been emphasized elsewhere (Clemmer, 1940; Galway, 1948; McCorkle & Korn, 1954; Reckless,

1955; Sykes, 1958; Federal Bureau of Prisons, 1964; Glaser, 1964; American Correctional Association, 1966; President's Commission on Law Enforcement and Administration of Justice, 1967; Morris, 1968; Joint Commission on Correctional Manpower and Training, 1969; Advisory Commission on Intergovernmental Relations, 1971; Brown & Sisson, 1971). However, though correctional officers who are versed in the techniques of behavior management *can* function as both agents of custody and rehabilitation, they must be systematically trained to use the tools with which they will work--the principles and techniques of behavior modification.

Origination of the Project

The impetus for developing a program for training correctional officers came from the realization that correctional officer support was needed to increase the effectiveness of an ongoing MDTA program for inmates operated by the Experimental Manpower Laboratory for Corrections (EMLC) at Draper Correctional Center in Elmore, Alabama. It was thought that some feelings of competition between the inmates and the correctional officers existed (Rehabilitation Research Foundation, 1970), resulting in many officers reacting negatively to the efforts of the EMLC because they felt that they were being "left out" of the advantages of having a large federal project operating in their institution. EMLC staff also realized that the officers had more potential for positive change than they were currently engaging in or manifesting and could serve as "instruments" or agents of behavior change with the inmates.

In view of the officers' feelings and the potential which they had for behavior change, it appeared advantageous for the EMLC to introduce a program which would not only provide the officers (an educationally and economically deprived group) some form of job upgrading, but which would also serve the goals of the EMLC with regard to the inmates. Through a manpower training type of project, officers could learn techniques which would aid them in working with the inmates, resulting in a more consistent treatment atmosphere for the overall efforts of the EMLC within Draper Correctional Center. The behavior modification technology which would be taught to the officers would complement the similar implementation of techniques in an entire cellblock of Draper--within the Token Economy Project which was being operated by the EMLC. Further, selected correctional officers, when trained as behavior change agents, would be capable of operating a similar token economy with the appropriate supervision.

The Correctional Officer Training Project which resulted strove toward two objectives. The first of these was to work through whatever misconceptions the officers had regarding punishment, showing them the distinction between discipline and punishment, modifying their belief that "the harder the punishment, the better the person will be," and bringing them to view the institution as an instrument of rehabilitation. Such an approach not only predisposed them to seek out and use alternatives to punishment in maintaining discipline and getting their jobs done, but it also set the stage for their learning the techniques which would serve them in their new role.

Once this stage was set, the training project moved toward its second objective: teaching the correctional officer the fundamental principles and techniques of behavior modification. By so doing, and by encouraging the officer to employ behavior control techniques based upon positive reinforcement, it was possible for the officers to fulfill their custody role and also to set the occasion for a rehabilitative program. Only by overcoming their roles as agents of punishment can correctional officers function as agents of rehabilitation.

METHOD AND PROCEDURE

Design and Treatment

The trainees were three groups of correctional officers, two composed of 15 officers each and a third composed of 10 officers. Prior to training, a brief interest questionnaire, keyed to the objectives of the project and so worded as to obtain a ranking of interest in and enthusiasm for training, was administered to the entire correctional officer population at Draper. Results from the questionnaire indicated that all Draper officers were interested in participating in training. This gave staff a freedom to choose from a wide variety of potential trainees.

In selecting the officers for training, project staff considered the opportunities each officer had for interaction with inmates, since interaction was a key to the application of the behavior modification principles and techniques taught in the training. For the first two groups, the warden helped project staff select officer trainees. With the third group of trainees and controls, the "selection committee" was expanded to involve more institutional staff, including the warden, classification officer, prison psychologist, and two shift commanders (fellow officers who had previously completed training), as well as the project staff. Thus the officers were not only chosen from the ranks of those who had the potential for interaction with inmates, but were also selected on the basis of their potential for benefiting from training, as viewed by institutional staff.

To determine the officers' achievement levels in basic education and to help establish a common and comprehensible level for presentation of subject matter in the training, most officers were given several standardized tests, including the Tests of Adult Basic Education (TABE) (California Test Bureau, 1967). Additional pretraining measures were taken of on-the-job behavior of both experimental and control *S*s (See Assessment section.).

The teaching team for the first two groups of officers was composed of a research psychologist, a criminologist, and a research associate; for the third group and with the introduction of self-instructional booklets, the team consisted of a research psychologist, who acted as a consultant, and two trainers. The classroom provided for all three groups of officers was a well-lighted, spacious, well-ventilated, and quiet room which is used as a conference room by EMLC staff.

For the training of the first two groups, the team employed a continuously cycling three-phase approach: preplanning session, teaching session, and review session. The

preplanning session was designed primarily as a brainstorming period during which possible strategies for each presentation were discussed and the teaching program was formalized.

During the initial stages of the training of the first two groups, the teaching sessions, which were conducted on a seminar basis in order to stimulate discussion, were three hours long and were held three days a week. Each of the first two cycles began with a problem-census of the officers so that their special needs and job requirements could be considered along with planned subject-matter presentation. These sessions also gave the team an opportunity to list and recognize the trainees' concerns about institutional policies and the treatment of inmates. In turn, the officers were able to recognize and discuss their own fixed behavior patterns and idealized notions about prison rules. The following sessions presented behavior modification principles and techniques. The training curriculum covered the following subject matter: a historical review of corrections; identifying, defining, observing, recording, and graphing behavior; positive reinforcement and punishment; time-out; escape; avoidance; extinction and stimulus control; schedules of reinforcement; shaping; and changing and fading.

For the third group, the newly prepared self-instructional booklets were used to present the subject matter; the booklets were developed from the experiences with the first two groups. Officers came into the classroom, were pretested on the materials to be presented in each booklet, completed the booklets, and, as soon as they finished, were posttested on the same material. The officers were scheduled to complete two booklets per week in the classroom sessions, which usually lasted less than an hour and were held twice weekly. The officers also attended a two-hour discussion session relating to the week's booklets. Discussions centered on lingering questions regarding the material presented or recommendations and comments regarding the booklets.

For the first two groups of officers, practicum exercises were conducted after they completed the classroom portions of their training. Each group of 15 officers was subdivided into three groups of 5, each meeting with training staff in one-hour sessions three days a week. The practicum phase provided the officers an opportunity to experience behavioral control techniques in action–in the institution and on the farm; it also provided the teaching team an opportunity to assess the officers' effectiveness in employing these techniques under normal institutional conditions. Similar practicum exercises were planned for the third group of trainees, but, due to a turnover in the institution administration and a subsequent shift of institutional concerns, they were not begun.

At the completion of the second group's training, trainees from both groups were combined into one large group to receive some additional training on an individual basis. However, it soon became apparent that time schedules would not permit this, and the training was quickly terminated. No individual training was attempted with the third group of officers.

While no systematic reinforcement was used in training the first two groups of officers, two motivational techniques were introduced during the training for the third group of officers to assure their participation in the comparatively more difficult booklet assignments: (1) the officers were given an opportunity to earn a small amount of money for each booklet completed and each discussion session attended and (2) administrative staff from the institution were included in the training and discussion sessions.

The maximum amount of money that each officer earned on a weekly basis was five dollars. If the officer came to the scheduled session on time and completed the booklet, as determined by a cursory examination of the completed booklet, he received one dollar from the training staff. Two booklets were introduced weekly. In addition, if the officer was on time for the weekly two-hour discussion session, he was given an additional two dollars. If the officer attended all three weekly sessions on time and completed the two booklets for that week, he was presented with an additional dollar bonus.

Although no hard data were systematically kept on the results of using money as a reinforcer, a few anecdotal observations can be made. Compared to the first two groups of officers, the third group complained less about attending classes despite the comparative complexity of the booklets. Several officers from the first two groups complained regularly about having to sit in a classroom, even though they were volunteers and the overall attendance for the sessions was 90%-plus. No such complaining was engaged in by the third group of officers, three of whom were always in class about 15 minutes ahead of time. The remaining officers, with one exception, were there on time.

As another motivational technique, selected administrative staff were asked to participate in the training project. Those who were selected included the training officer from the Board of Corrections and the institution's assistant warden and classification officer. Each was asked to complete the scheduled booklets for the week, attend the weekly discussion sessions, and join in the ensuing discussion about the booklets. Out of the five scheduled discussion sessions, at least three were attended by two or three of the administrative staff. They demonstrated that they had read the booklets by

contributing to the discussion and commenting on the booklets. The effects of their participation in the training were not sought out, however, and, as a result, are not measurable.

Demographic Characteristics of Officer Trainees

All data for the first two groups of correctional officers will be presented separately, since some of the measures used were slightly revised or eliminated in assessing the third group. Also, a few additional measures were introduced with the third group.

First and Second Groups of Officers

Correctional officer trainees and control *S*s were drawn from the staff of Draper Correctional Center, ranging from entry-level officers to the captain of the guard. A lieutenant and two sergeants were included among the trainees. Eighty-seven percent of all *S*s (N = 37) had lived the greater portion of their lives in Alabama, 73% in Elmore County (the location of Draper), and 27% in bordering counties, most of which, like Elmore County, are agrarian communities.

Officers ranged in age from 23 to 67 years, with a median age of 49 years. Ninety-five percent of the officers were married; one was single and one widowed. Their yearly income ranged from about $4,500 to about $6,000.

The reported education level of the correctional officers ranged from the eighth grade to the freshman year in college. The median grade completed was the eleventh. Tested education levels indicated a mean grade level of 6.5 for experimental *S*s, with a range of 3.2 to 10.9, and a mean grade level of 7.1 for control *S*s, with a range of 4.6 to 10.9. (Complete TABE results from the first two groups of officers appear in Appendix A, Table A.)

Third Group of Officers

Correctional officer trainees and control *S*s ranged in rank from entry-level officers to shift lieutenant. Ninety-five percent of all *S*s (N = 19) had lived the greater portion of their lives in Alabama, 53% in Elmore County and 47% in bordering counties.

Officers ranged in age from 23 to 67 years, with a median age of 50. Ninety-five percent of the officers were married; one was single. Their yearly incomes ranged from about $4,500 to $6,000.

The reported educational level of correctional officers ranged from completion of seventh grade to college graduate. The median grade was the eleventh. Tests to obtain

I.Q. and achievement levels were planned, and a few were implemented for the third group. However, several of the officers from this group refused to take either of the tests. Since project staff decided that enough educational data had been collected from the first two groups of officers to establish a comprehensible level of subject matter presentation, it was agreed that further I.Q. or educational testing was not needed. In addition, forcing the tests upon the officers could have jeopardized the staff's relationships with the officers. As a result, no further testing was conducted with the third group, and the data retrieved from the few who took the tests are not included in this report.

ASSESSMENT

Staff Evaluation of the Second Group of Officers

The Behavioral Observation Index (BOI) developed by Witherspoon (1971) was used in the training project to obtain empirical data concerning the officers' behavior on the job. It provided accurate behavioral descriptions of officers which were used to assess the effects of the training.

Since the index was developed during the first group's training, it was not available for evaluating those 15 *S*s. However, each of the 15 trainees in the second group, as well as each of the 15 control *S*s, was evaluated with the BOI. Each *S* was observed for a total of six hours following his participation in training.

The BOI includes nine behavior indices which measure the effects of training on the officers' interactions with inmates:

1. *Total number of interactions*. Interactions with anyone (inmates, other officers, administrative personnel, research personnel, etc.).
2. *Verbal contact (with inmates) score (content and tone)*. Score based upon the content and tone of the verbal phrases used by an officer in interactions with an inmate. This index was scored "+" if content and tone were friendly and positive and "-" if they were negative, hostile, unfriendly, or showed tension or antagonism. If they appeared neutral or a score of "+" or "-" was not appropriate, the score was "0". If content or tone were not audible due to noise or distance, the interaction was scored with a question mark.
3. *Percent interactions with inmates*. Self-explanatory.
4. *Percent personal interactions with inmates*. Self-explanatory.
5. *Percent personal interactions with inmates initiated by the officer*. Self-explanatory.
6. *Behavioral response score*. Evaluation of the officer's response based on the Standardized Response Index (Witherspoon, 1971). Responses to inmate behavior were rated on a numerical scale from 1 to 4 for their appropriateness (i.e., whether the particular response reinforced, ignored, terminated, or punished the behavior in question).
7. *Average number of inmates per interaction*. How many inmates were involved in each interaction the officer had.

8. *Verbal contact (with others) score.* A combination score derived in the same manner as the second index, excluding all interactions with inmates.
9. *Percent personal interactions with others.* Self-explanatory.

While administering the BOI, care was taken to avoid disrupting the natural setting within which behaviors occurred. The observer interacted with officers only in those situations where it was necessary to maintain rapport. The observer did not participate in any portion of the training, nor did he read evaluative materials concerning the officers. Due to the high turnover of prison personnel, observing the officers on comparable jobs before and after training was somewhat difficult, resulting finally in the elimination of several officers from the evaluation.

Staff Evaluation of the Third Group of Officers

The BOI was also used to assess the effects of training on the behavior of the third group of officers. Each of the 10 trainee *S*s, as well as the 10 control *S*s, was observed for a total of four hours prior to his participation in the training. Because the training had to be delayed about four months due to delays in preparing the programmed training materials, an additional hour probe was made of both trainee and control *S*s to determine if there had been any behavioral change since the last observations. Immediately upon the completion of 10 self-instructional booklets, all *S*s were observed again for an hour. It was decided to use the shorter observation period because earlier data analysis had found that little change was introduced as a function of longer observation periods.

Eight behavior indices were derived from the BOI to measure the effects of training on the officers' interactions with inmates. Because the focus of the observations for this group was on officer/inmate interaction, three changes were made in using the BOI: only interactions with inmates were included; the "response score" was changed to percent of responses which were positively reinforcing ("positive reinforcement"); and the number of inmates in each interaction was analyzed by looking at percent of interactions with single inmates, labeled "one-to-one interactions." The eight indices were:

1. *Verbal contact (with inmates) score (content).* Explained in 2 above.
2. *Verbal contact (with inmates) score (tone).* Explained in 2 above.
3. *Percent personal interactions with inmates.* Self-explanatory.
4. *Percent personal interactions with inmates initiated by the officer.* Self-explanatory.

5. *Behavioral response score (percent positive reinforcement only).* A score based on the officer's response to inmate behavior. See 6 above. Responses indicating that the officers ignored, terminated, or punished inmate behavior were not analyzed since the training emphasized the use of positive reinforcement.
6. *Percent one-to-one interactions (correctional officer with inmate).* A score of how often officers engaged in interactions with inmates on a one-to-one basis.
7. *Number of contacts with inmates.* Self-explanatory.
8. *Overall evaluation.* Compared all measures for all officers.

Inmate Evaluation of the First and Second Groups of Officers

Because previous experience at Draper had suggested the existence of slight to moderate officer competition with inmates, project staff wanted the officers themselves to initiate the idea of inmate evaluation of the effects of training. In discussion of possible assessment measures with the first group of trainees, the officers suggested "asking the inmates to see if we change." Two techniques for inmate evaluation of correctional officers' interactions were subsequently developed.

Following the first group's training, 31 inmates were selected at random from the institution population to evaluate the officers. Due to the transitory nature of the population, a group of this size was necessary to insure the presence of an adequate sample during the follow-up evaluation, scheduled for several months later. Additionally, these inmates were selected with some consideration of the length of time they would remain at Draper.

One method of evaluating the officers used individual 3 x 5 cards bearing the name of each prison employee and a corresponding number. The 31 inmates selected cards for all personnel with whom they were familiar enough to make some evaluation in these four categories: (1) *general caliber*–overall effectiveness in dealing with inmates in carrying out his duties; (2) *punitiveness*–quality of interactions with inmates in disciplinary as well as everyday situations; (3) *concern with inmate welfare*–temperament of general and interpersonal interactions with inmates; and (4) *fairness*–behavioral treatment of inmates in job assignments, disciplinary cases, etc. They then ranked the officers from 1 (best) to 5 (worst) by dividing the cards into five stacks and recording the numbers. Value judgments such as "the one you like the most" were strictly avoided, and, aside from a simple explanation of the categories, inmates were left to determine for themselves how they would rank the officers.

The other method of inmate evaluation was developed along similar lines, but was designed to be open-ended. The inmates were asked to write behavioral statements about officers who had changed over a two-week period. The same 31 inmates were asked to name three officers whom they had observed to have changed in their behavior toward and with inmates in the past two weeks. They were then asked to write a description of the change. Again, value judgments were avoided in order to decrease the possibility of conducting a popularity poll.

This second method is apparently better suited for other populations. Because of the random sampling, the 31 inmates included a few illiterates as well as several whose contact with the officers was so limited as to hinder them from observing changes which might have occurred in the officers' behavior. In addition, many of the officers had identical surnames, making absolute identification difficult. This latter evaluation technique was discontinued because of the general lack of clarity in the data and the inability of the inmates to pinpoint behaviors as opposed to isolated favors performed at some time in the past.

Inmate Evaluation of the Third Group of Officers

The individual cards were also used to evaluate the third group of officers. However, before being used for the third group, the technique had to be refined. Because many of the officers had similar names which were often difficult to discriminate, a picture of the officer was fastened to the card bearing his name and number. As previously, the inmates were asked to rank order the officers they knew in the four categories.

A group of 25 inmates was selected at random from the institution population to do this evaluation. Again, the only criterion for selection was the amount of time left to spend at Draper. The pool of eligible inmates from which the 25 were selected were those who, according to official records, would probably remain at Draper for the follow-up evaluation scheduled several months after the completion of training.

The evaluation technique was administered a total of four times: (1) two weeks before training, (2) one week before training, (3) midway through the first 10 booklets, and (4) immediately after the completion of the first 10 booklets. No other follow-up is planned until the remaining 10 booklets required to complete the entire training package are introduced, at which time additional inmate evaluation using the cards is planned.

Practicum Exercises from the First and Second Groups of Officers

One dimension of the evaluation of any type of training lies in asking the critical question: Can the trainee perform effectively those tasks for which he was trained? In relation to this project, the question was: Can behavior modification principles and techniques be successfully applied to a correctional setting, i.e., can these techniques be translated into a comprehensible and reasonable methodology for teaching correctional personnel, and can correctional personnel employ these same techniques in their interactions with inmates so as to function as behavioral change agents?

These questions were answered by observing the actual application of the techniques by correctional officers in their individual job assignments. During the first group's training, officers began their practicum exercises toward the end of the classroom training, and many were unable to complete their projects prior to institutional staff changes. The second group, therefore, was allowed to begin their practicum exercises early enough in training so as to guarantee completion.

The first and second groups of officers discussed problem behaviors as a group. When asked what problems the officers had in their work it became apparent that, if there were any, they certainly would not admit to having them. The term ""bothersome" behaviors was then substituted, and then each officer singled out a particular behavior to deal with individually. Two members of the teaching team visited each officer on the job in order to verify, or clarify, the behavior with which the officer had chosen to work. After the teaching team and officers agreed upon a behavior, the officers then collected baseline data. In smaller groups, the data were discussed and the officers were led to make possible treatment suggestions. Suggestions were elicited primarily from the trainees but also from non-trainees. Each checkpoint in their exercises--observing, graphing, correction (treatment), etc.--was correlated with the training material presented. Rater-rater agreement checks were made and fully discussed with the officers in the classroom.

In the process of doing their practicums, the officers were able to observe the positive effects of the principles of behavior modification upon the behavior of their inmate charges. The so-called "bothersome" behaviors, in fact, were selected for treatment to facilitate the officers' recognition of the effects of their training. If the officers can experience success in remediating those things which they feel need improvement or correction, and if they can see that they can influence the actions of inmates, the door opens for them to take a more active part in a broad spectrum of programs dealing with rehabilitation. (Complete descriptions of selected projects are given in Appendix C.)

Officer Evaluation of the Training

Posttraining Questionnaire

A survey was conducted approximately four months following the training of the second group and included both the first and second groups of officer trainees. A questionnaire was developed to aid in the collection of data in two general areas: (1) project (training) effectiveness and (2) correctional officers' reactions to the training. The first four items on the eight-item questionnaire dealt with the number and duration of individual behavior modification projects begun by individual officers. Questions 5, 6, and 7 dealt with institutional support of and interference with these projects as well as proposed institutional changes which would enhance the projects. The last question asked the officers to evaluate the training. No posttraining questionnaire was administered to the third group of officers, since they have not completed the entire training package and practicum exercise.

Other Assessment Measures for the First and Second Groups of Officers

In addition to the measures discussed above, several standardized attitudinal scales were administered to determine the effect of the training the officers received and the appropriateness of these scales to a correctional training situation. In particular, an attempt was made to measure possible changes in the ways in which the correctional officers viewed their jobs, the inmates with whom they worked, and the degree of anxiety or fear which they felt while actually performing their duties. It was thought that a change in these attitudes could help the officers to function more effectively as behavior change agents. The instruments were administered to all trainees and control *Ss* prior to, immediately following, and three to six months following training. The scales were as follows:

Kassebaum, Ward, & Wilner Scale (KWW)

Since one of the objectives of training was to create or increase an acceptance by correctional officers of positive-oriented treatment techniques, the KWW (Kassebaum, Ward, Wilner, & Kennedy, 1962; Kassebaum, Ward, & Wilner, 1964) was employed to measure both the expected resistance and the anticipated change. The instrument is a measure of authoritarian orientation, preference on penalties, optimism or pessimism regarding treatment outcome, and preferred social distance with inmates.

Factored Fear Survey (FFS)

The FFS (Rubin, Katkin, & Weiss, 1968; Rubin, Lawlis, Tasto, & Namenek, 1969) was drawn from the Temple Fear Survey Inventory (TFSI) (Braun & Reynolds, 1969). Forty items were taken from the 100-item TFSI covering the factors believed to be appropriate to the target population. These factors include: (1) social criticism--feeling disapproved of, being ignored, being criticized, etc.; (2) contamination--becoming mentally ill; (3) dangerous places--being in crowded and closed places; (4) active physical assault--being bullied by someone, being in a fight, etc., (5) potential physical assault--being with drunks, etc.; (6) social competence--speaking before a group, meeting someone for the first time, etc.; (7) deformed people; (8) potential aggression; (9) death; (10) objects of death; and (11) achievement. On each item, *S* expressed his degree of fear on a four-point scale (not at all, a little afraid, very afraid, and terrified).

It was hypothesized that if such fears existed, they would be lessened or extinguished when the officers were furnished with alternative methods of controlling behavior.

Rotter Internal-External Scale (IE)

The effectiveness of the reinforcer may be largely determined by how a person reacts to it. It he reacts to it as contingent upon his preceding behavior (internal), he is likely to repeat that behavior. However, if he treats the reinforcer as independent of his behavior (external), the value of the reinforcer can be lost. The IE (Rotter, 1966) consists of 29 items, six of which are filler items. In each item, *S* chooses one of the two statements which most nearly complements his opinions, philosophy, or policies; one item is indicative of internal control and the other of external.

In view of the role of reinforcement in the acquisition and performance of skills and knowledge, the IE was used to determine to what extent correctional officers reacted to reinforcement as contingent upon their behavior and thus to what extent they would be willing to make reinforcement for inmates contingent upon their behavior. It was also used to determine whether training in reinforcement theory and techniques would result in any change in the officers' perception of internal and external control.

Spielberger State-Trait Anxiety Inventory (STAI)

The STAI (Spielberger, Lushene, & McAdoo, 1971) is comprised of separate self-report scales for measuring two distinct anxiety concepts: state anxiety and trait anxiety. State anxiety is conceptualized as a transitory emotional condition of the human organism

characterized by subjective, consciously perceived feelings of tension and apprehension, while trait anxiety refers to relatively stable individual differences between people in the tendency to respond to situations perceived as threatening. The Trait Scale consists of 20 statements that ask subjects to describe how they generally feel. The State Scale also consists of 20 questions but asks that subjects indicate how they feel at a particular moment in time.

The STAI was administered to correctional officers to measure these particular psychological traits in order to determine if any change occurred in the officers as a function of training.

Because the scales described in this section failed to differentiate trained and non-trained officers for the first two groups of officers, they were eliminated in the assessment of the third group.

Ancillary Assessment of the First and Second Groups of Officers

Correctional Officer Association with Institutional Organizations

During the first group's training, it was hypothesized that correctional officers, who would by way of training become more involved with inmate behavior, would also become involved in the inmates' institutional activities as honorary members or advisors of their organizations. The hypothesis originated when an officer trainee became an honorary member of one such organization. His associated verbal behavior and the apparent interest of other officers indicated the potential of this type of institutional involvement in providing opportunities for the officer to act as a behavioral change agent. The trainers decided to use the association of correctional officers with inmate organizations as an assessment index, and the officers were encouraged to participate.

An instrument was constructed to determine how many officers occupied either active or passive roles in such inmate organizations as the Jaycees, Narcotics Anonymous, the band, Alcoholics Anonymous, Big Brother, Gavel Club, church, etc., both prior to and following training. Officers were asked to rate the influence of training on their becoming involved in inmate organizations during training on a four-point scale: (1) deciding factor, (2) played large part, (3) played small part, and (4) played no part.

Booklet Evaluation from the Third Group of Officers

Content tests were introduced as an assessment for the third group, since the use of booklets for subject-matter presentation facilitated such assessment. Each of the 10

booklets was accompanied by a pre- and post-content test, called "baseline check" and "progress check" because the word "test" appears to be anathema to correctional officers. When an officer arrived in the classroom for his scheduled booklet he was first given a brief written multiple-choice baseline check. The trainer explained to the officer that he was not expected to know the material, but that the trainer needed to verify this. As soon as the officer completed the baseline check, he was given the booklet scheduled for that session. When he had completed the booklet, he then took a progress check. The progress check questions were the same as those on the baseline check. The trainer recorded the time required to complete each booklet for each officer. The same procedures were used for all officer trainees and each of the 10 booklets.

Two indices were derived from the evaluation of the booklets:

1. Pre to post gain in percentage correct for each booklet and officer.
2. The amount of time that each officer spent on each booklet.

RESULTS

Staff Evaluation of the Second Group of Officers

Using the Behavioral Observation Index (BOI), observations were made pre- and posttraining and were converted to change scores *S* by *S* on the nine behavior indices. For a variety of reasons--including administrative shifting of officers, health, accidents, etc.--a rather high attrition rate occurred: only nine experimental *S*s and seven control *S*s were on the same or comparable jobs at the time posttraining observations were made, three to four months after training was completed.

Table 1 summarizes the data taken from the BOI on the nine behavior indices. (Correlation coefficients for BOI indices may be found in Appendix A, Table B. Table C denotes which behaviors occurred and within what observation period. Table D presents individual data for the nine behavior indices. Data were analyzed according to short-cut statistical techniques described by Jenkins and Hatcher [1973].)

TABLE 1

Summary of Behavioral Observation Index (BOI) Data: Distribution Statistics and Probabilities of Differences in Change Scores between Pre- and Posttraining Observations of Interactions of Trained (E) and Non-Trained (C) Correctional Officers (Second Group)

	E (Trained) N = 9			C (Non-Trained) N = 7				
Behavior Index	Mid Score[a]	Range	Number Increasing	Mid Score	Range	Number Increasing	Q	*p*
Total number of interactions	11.00	-22 to 21	7/9	8.00	-29 to 47	4/7	.45	.03
Verbal contact (with inmates) score (content and tone)	.15	-.10 to .40	6/9	.02	-.60 to .21	4/7	.46	.03
Percent interactions with inmates	-1.00	-30 to 23	3.5/9	-9.00	-24 to -1	0/7	.63	.001
Percent personal interactions with inmates	8.00	-34 to 41	5/9	19.00	-7 to 30	5/7	-.33	.21
Percent personal interactions with inmates initiated by the officer	-24.00	-53 to -12	0/9	-20.00	-83 to 9	1/7	-.20	.44
Behavioral response score	.35	-.17 to .72	8/9	.24	0 to .66	6.5/7	.24	.19
Average number of inmates per interaction	-.16	-6.62 to .23	3/9	-.69	-10.9 to .12	1.5/7	-.29	.29
Verbal contact (with others) score	0.00	-21 to 39	5/9	.05	-11 to 18	4/7	-.03	.92
Percent personal interactions with others	-2.00	-22 to 24	3/9	12.00	-4 to 50	6/7	-.85	.01

[a]The most representative score, which usually corresponds most closely to the median.

There was a slight tendency for both trainee and control groups to decrease on the following indices: *percent interactions with inmates, percent personal interactions with inmates initiated by the officer,* and *average number of inmates per interaction*. However, the trained officers decreased less, although not significantly so, than did the non-trained officers. The fact that both groups decreased may have been due to concurrent escape attempts (holding hostages, etc.) and overall prison unrest apparently due to summer heat and officer shortage. The groups were fairly comparable on the other indices.

Those officers who were more effective in their application of behavioral principles when responding to inmates were those who interacted with inmates more often (rho = .26) and whose interactions with inmates were more often of a personal nature (rho = .51). At the same time, these officers tended to be less interactive with persons other than inmates (other officers and staff members) and appeared to be receiving their reinforcement (social, self-satisfaction, attention, etc.) from the inmates.

Conversely, those officers who interacted most frequently with other officers and staff were least effective in behavioral responses when interacting with inmates and had the lowest percent of personal contacts with inmates. Their reinforcement seemed to be coming from other officers and prison personnel. There thus appears to be a behavioral schism in that the officer either interacts mostly with inmates or mostly with prison personnel, but not with both. The two kinds of interaction correlated negatively (rho = -.30, based on combined measures). (See Appendix A, Table B.)

In brief, there is a noticeable tendency for trained correctional officers, as contrasted with non-trained officers, to show changes from pre- to posttraining in the direction of more frequent and more positive interactions with inmates.

Staff Evaluation of the Third Group of Officers

Pre- and posttraining observations were made of officers in their daily interactions with inmates by trained observers using eight indices on the BOI. The behavior patterns of the 10 trainees were compared with those of a group of 8 non-trained officers. (Two of the original 10 controls were dropped from the comparison.) Difference scores between pre- and posttraining observations were converted to percentages for each *S*. The percent change scores are the measurement units employed in the following analyses.

Table 2 contains the distribution data for the percent change scores, separately for the trainee and control groups and for the seven BOI indices along with the overall

evaluation, the eighth index. It also contains the validity coefficient for these indices and their associated probabilities. It is noteworthy that the two indices yielding the greatest gains in the trainee group are officers' initiation of interaction and the use of positive reinforcement (behavioral response score). Overall, the trainee group exceeds the control group in seven of the eight indices used. The significant reversal, one-to-one interactions, may be a special case and a function of job assignment. Some officers, for instance, worked on the farm where opportunity for individual interaction is limited.

TABLE 2

Summary of Behavioral Observation Index (BOI) Data: Distribution Statistics and Probabilities of Differences in Change Scores between Pre- and Posttraining Observations of Interactions of Trained (E) and Non-Trained (C) Correctional Officers (Third Group)

	E (Trained) N = 8			C (Non-Trained) N = 8				
Behavior Index	Mean	Range	Number Increasing	Mean	Range	Number Increasing	Q	*p*
Verbal contact (with inmates) score (content)	-3.9	-18 to 6	2/8	-8.3	-17 to 0	0/8	.47	.05
Verbal contact (with inmates) score (tone)	-2.1	-84 to 43	4/8	-23.3	-66 to 9.8	1/8	.61	.02
Percent personal interactions with inmates	-11.7	-40 to 4	2/8	-15.3	-50 to 20	3/8	.13	.31
Percent personal interactions with inmates initiated by the officer	3.2	-79 to 39	6/8	1.5	-80 to 63	3/8	.49	.04
Behavioral response score (percent positive reinforcement only)	11.9	-30 to 84	5/8	-16.5	-55 to 8	1/8	.61	.02
Percent one-to-one interactions (correctional officer with inmate)	-26.3	-82 to 6	1/8	6.1	-80 to 86	4/8	-.88	.005
Number of contacts with inmates	-10.9	-100 to 82	3/8	-47.1	-100 to 46	1/8	.71	.009
Overall evaluation	-5.7	-50 to 8.4	3/8	-14.7	-50 to 40	1/8	.83	.006

An estimate of consistency or reliability for the indices of the BOI was obtained by correlating pre- and posttraining observation scores for all 16 men. These reliability coefficients reached acceptable levels for six of the eight indices, averaging near .70. They were near zero for officer-initiator and one-to-one interactions. The reason for this lack of consistency in these two indices is not immediately obvious. These two indices also tended to correlate negatively with the other six indices. The latter indices yielded a median intercorrelation of about .50.

The data seem to indicate that officers who received training in behavioral principles and techniques became more congenial (verbal content and tone) in their interactions with inmates and interacted with other prison personnel significantly less than did those officers who received no training ($p < .001$). The "either-or" phenomenon (interacting with either inmates or with prison personnel) is apparent. The overall verbal contact score (both content and tone) with inmates and *percent interactions with inmates* were ranked across trained and non-trained officer groups, and the means for these two rankings resulted in a HLC (Jenkins & Hatcher, 1973) of .76 ($p < .001$).

Those officers with the highest number of interactions on the job also had the highest percent of contacts with inmates (rho = .56) and the highest number of inmates in each interaction (rho = .56). The officers supervising inmate work crews (generally 20 inmates) contributed heavily to these data. For instance, an officer responsible for a farm crew might have a large number of interactions of a business nature, since each order he issued was directed at the entire inmate crew. However, a large number of interactions, indicating that the officer was very busy, had a negative correlation with his amount of personal contact with inmates (rho = -.37) and his overall verbal contact score (content and tone) with inmates (rho = -.42).

The data also indicate that congenial and personal contacts with inmates decreased as the officer was required to interact with an increasing number of inmates. When several inmates were around, inmates were less likely to initiate personal contact with the officer (rho = -.63: relation between the number of inmates per interaction and officer-initiated personal contacts). Inmates generally did not initiate personal interactions with the officers whose behavioral response scores were low. These officers, along with those who had a low percent of personal contact with inmates, had to initiate most of their personal contacts with inmates, perhaps reflecting their past or overall behavior as a non-reinforcing agent.

Inmate Evaluation of the First and Second Groups of Officers

When the select inmate evaluation group ranked officers from the first two groups of trainees across the four categories (*general caliber, punitiveness, concern with inmate welfare, fairness*), 16 of the 28 trained *S*s (57%) were mentioned "spontaneously" as contrasted with only 18 of the 101 non-trained officers (18%), a highly significant difference. The data are contained in Table 3.

TABLE 3

Inmate Evaluation: Officers (First and Second Groups) Mentioned One or More Times

	Trainees (First and Second Groups)	All Others	Total
Mentioned	16	18	34
Not mentioned	12	83	95
Total	28	101	
	Q = .72		
	$p = < .001$		

The data suggest the trend for the trained officers to show greater changes (improvement) from pre- to posttraining evaluation as seen by inmates than do the non-trained officers. For instance, 10 of the 16 trained officers (63%) were seen by the inmate group as increasing in their general caliber, i.e., in their overall effectiveness in dealing with the inmate population; 7 of the 14 non-trained officers (50%) increased in effectiveness. Twelve of the 16 trained officers (75%) were seen as decreasing in punitive behavior as compared with only 8 of the 14 non-trained officers (57%). In interpersonal interactions with inmates, the inmates considered 11 of the 16 trained officers (69%) to be more concerned with the inmates' welfare; corresponding figures for the control group are 7 out of 14 (50%). It was only in the last category, *fairness* in dealing with inmates, that the controls showed a greater change (though not a significant difference) than did the trained *S*s. Nine of the 14 control *S*s (64%) gained as compared with 9 of the 16 trained *S*s (56%). There appears to be no obvious explanation for the reversal. These data are contained in Table 4. (Individual measure data are contained in Appendix A, Table E.)

TABLE 4

Inmate Evaluation: Trained Officers (First and Second Groups) and All Other (Non-Trained) Officers who Were Rated by Inmates as Gaining or Losing in the Four Areas from Pre- to Posttraining

	Trained	All Other
General Caliber		
Number gaining	10	7
Number losing	6	7
	Q = .29	
	p = .05	
Punitiveness		
Number gaining	12	8
Number losing	4	6
	Q = .38	
	p = .02	
Concern with Inmate Welfare		
Number gaining	11	7
Number losing	5	7
	Q = .38	
	p = .02	
Fairness		
Number gaining	9	9
Number losing	7	5
	Q = -.20	
	p = .23	

Three of the four individual measures, excluding the *fairness* category, show moderately significant outcomes favoring the trained group. Better than two-thirds of the trained *S*s gained in their general caliber, became less punitive, and became more concerned with inmates' welfare as compared with 52% of the control *S*s (p = .001), as reported by inmates. The two measures closely associated with the objectives of training, *punitiveness* and *concern with inmate welfare*, saw 72% of the trained *S*s gaining (less punitive and more concerned), compared with 54% of the control *S*s (p = .001). These data are contained in Table 5.

TABLE 5

Inmate Evaluation: Combining Measures for Trained Officers (First and Second Groups) and All Other (Non-Trained) Officers who Were Rated by Inmates as Gaining or Losing from Pre- to Posttraining

	Trained	All Other
Adding Across All Measures		
Number gaining	42	31
Number losing	22	25
	Q = .21	
	p = .015	
Adding Across First Three Measures: General Caliber, Punitiveness, Concern with Inmate Welfare		
Number gaining	33	22
Number losing	15	20
	Q = .33	
	p = < .001	
Adding Across the Middle Measures: Punitiveness and Concern with Inmate Welfare		
Number gaining	23	15
Number losing	9	13
	Q = .38	
	p = < .001	

To obtain a summary overview of the BOI and inmate evaluation data, the following procedure was adopted. The change score data for the two most discriminating indices from the BOI (verbal contact [with inmates] score [content and tone] and *percent interactions with inmates)* were converted separately to rank scores and the ranks across the two indices were summed. A Hi-Lo sort was then applied to the ranks, yielding a two-by-two table, Hi-Lo and Trained (*E*)/Non-Trained (*C*). The same procedure was followed for the two most effective indices in inmate evaluation (*punitiveness* and *concern with inmate welfare*).

The data for these two analyses are contained in the upper two-thirds of Table 6; the bottom third of the table presents the combined data for the two instruments. A high degree of covariation may be seen in all instances; the combination indices for both measures (BOI and inmate evaluation) discriminate quite significantly between change scores for trained and non-trained correctional officers, with the former showing considerably more and larger positive gains.

TABLE 6

Summary of Change Score Data for Trained (E) and Non-Trained (C) Officers on the Two Most Discriminating Indices of the BOI and the Inmate Evaluation

	Trained	All Other
BOI[a] (Second Group Only)		
Hi	6	2
Lo	3	5
	Q = .67	
	$p = < .001$	
Inmate Evaluation[b] (First and Second Groups)		
Hi	11	6
Lo	5	8
	Q = .49	
	$p = < .001$	
Combined Data for Both Instruments		
Hi	17	8
Lo	8	13
	Q = .55	
	$p = < .001$	

Note.–*Hi* refers to those officers having a large change score; *Lo*, to those with a small change score.

[a]Indices upon which the analyses are based are *verbal contact (with inmates) score (content and tone) and percent interactions with inmates.*

[b]Indices upon which the analyses are based are *punitiveness* and *concern with inmate welfare.*

These outcomes must be interpreted cautiously since the measures employed were selected from a larger sample of indices. They do suggest, however, a clear-cut trend for trained officers to change in their behavior toward inmates more than non-trained officers and in a positive direction, as assessed by independent observers (project staff and inmates).

Inmate Evaluation of the Third Group of Officers

A selected group of 25 inmates rated the officers before and after training on four indices: *general caliber, punitiveness, concern with inmate welfare,* and *fairness*. In addition, a total score was derived. All 20 officers, trainees and controls, were rated. The inmates were uninformed as to which officers had received training or the nature of the training.

Again, change scores were obtained separately for each *S*. Because of the narrow spread allowed in the ratings (1 to 5), a percentage conversion was inappropriate. Thus the data employed in the analyses were the change scores.

Table 7 contains the basic data from the inmate evaluation. It is noteworthy that all average change scores are negative, indicating a downgrading of officers by inmates from the pre- to the posttraining evaluation. Of the total of 100 ratings (five indices on 20 officers), only 26 differences were positive. There was, however, a trend for trained *S*s to exhibit lesser losses than the control *S*s. Only one of the individual indices attains an acceptable level of significance, although four of the five suggest a trend for the trained group to exceed the non-trained group. It is not clear why *general caliber* fails to discriminate. Combining the remaining three indices yields a validity coefficient of .45, which reaches the .04 percent level of significance.

TABLE 7

Inmate Evaluation: Distribution Statistics and Probabilities of Differences in Change Scores in Pre- and Posttraining Evaluation of Trained (E) and Non-Trained (C) Correctional Officers (Third Group)

	E (Trained) N = 10			C (Non-Trained) N = 10				
Measures	Mean	Range	Number Increasing	Mean	Range	Number Increasing	Q	*p*
General caliber	-.15	-.8 to .6	3/10	-.16	-1.1 to 1.0	2/10	-.01	.98
Punitiveness	-.15	-.9 to .6	3/10	-.09	-.6 to .1	2/10	.23	.17
Concern with inmate welfare	-.05	-.5 to .7	4/10	-.96	-.8 to .2	2/10	.63	.02
Fairness	-.09	-.8 to .4	2/10	-.17	-.8 to .7	3/10	.19	.22
Overall combined score	-.08	-.6 to .1	3/10	-.27	-.5 to .5	2/10	.23	.17

Reliability was quite high. All four individual indices and the combined one produced high pre-post correlations, ranging from .87 to .91. In addition, extremely high intercorrelations were found among the four individual indices, ranging from .88 to .91. The four individual indices also correlated highly with the overall combined index, with a range from .93 to .97.

As an additional datum, the overall index on the BOI was correlated with the combined inmate evaluation index for posttraining. The resulting correlation was .47, indicating some degree of agreement between the outcomes of the two approaches, though the BOI is the more valid and objective measure.

Practicum Exercises from the First and Second Groups of Officers

All of the 30 original trainees from the first two groups of officers initiated individual behavior modification projects. However, 4 resigned from their jobs with the Board of Corrections: 2 of these during the training period and 2 after the completion of training. One *S* was dropped from training due to a physical handicap (hearing deficiency). The third group of officers did not begin practicum exercises, as noted earlier.

Six *S*s (23%) did not begin the treatment phases of their projects. Reasons ranged from job changes to baseline indication of low occurrence of the behavior. Of the 20 *S*s who began treatment phases, 13 (65%) completed this phase, and nine of those *S*s (69%) returned to baseline conditions following treatment.

Officers were working with problem inmate behavior primarily, but some who were in supervisory positions were working with problem officer behavior as well. Inmate behaviors that were dealt with included both individuals and groups. Selected projects are described in a separate section of this report (Appendix C).

The projects demonstrated that the officers are capable of employing the techniques and principles learned in training to the real-life job situation. They also demonstrated to the officers that, by using these techniques, it is possible for them to accomplish the desired behavior change in the inmate(s).

Officer Evaluation from the First and Second Groups of Officers

When surveyed approximately four months after training, the officer trainees responded favorably to the training situation in general and to their individual projects specifically. The 13 officers who had completed the treatment phase of their individual projects reported satisfaction with the effects of their treatment regimens; in each case, the officer had produced a behavior change in the desired direction. In the projects of those 9 officers who had returned to baseline conditions, the effects of treatment were maintained in eight cases; in one case the effects were reversible.

The officers who failed to complete the various phases of their projects gave reasons which can be categorized as follows:

..... Administrative action (job changes, transfer of inmate subjects, supervisor failed to cooperate, etc.)

..... Personal (leave of absence, death in immediate family, severe injuries in automobile accident, treatment considered too much additional work, etc.)

..... Technical (baseline indication of low occurrence of behavior; officer did not have authority or facilities to institute effective treatment, etc.)

Officers were asked who had supported their projects and in what ways they had done so. The trained officers received almost as much support from non-trained personnel (12) as they did from within their own group (14). An example of the type of support received would be an instance in which non-trained officers collected data for a trainee who was absent. It should be noted that, considering the potential for support (approximately 129 prison staff members), the absolute level of support was quite low (a total of 26 cases).

Conversely, *Ss* were asked what types of interference they encountered and from whom. There were 11 instances of interference: 2 from the trained group and 9 from non-trained personnel. The kinds of interference encountered ranged from derogatory statements aimed at the trainees (calling them "school boys," etc.) to changing the job assignments of inmate subjects, making their observation impossible. Although most of the interference came from without the trained group, the absolute figures are again quite low.

Officers reported the need for some changes to be made within the institution. Most of the suggestions would facilitate larger scale implementation of behavioral techniques. These include: more time to work with inmates, more training, more authority for line staff, more administrative support, improved facilities, and more personnel. (The overall inmate-officer ratio at Draper during the training of the first two groups of officers was 8.5:1. However, due to shift schedules, at any given time the functional ratio is 25.5:1. The ratios remained about the same for the third group of officers.) Interestingly, four of the officers saw no need for change.

In an overall evaluation of the training project, a significant majority of the officers (70%) responded that the most valuable aspect of training was learning new ways of dealing with inmates. Other responses included: learning techniques to use at home, gaining an understanding of why people behave as they do, and encouragement to continue what they have always done. Three officers reported having gained nothing from training.

Other Assessment Measures for the First and Second Groups of Officers

Several standardized scales were used to determine if any changes in these particular psychological traits occurred as a function of training. The scales were administered to

two groups of 15 and 14 correctional officer trainees and a comparison sample of 13 non-trained officers. (The individual data are contained in Tables G, H, I, J, and K in Appendix A.)

Kassebaum, Ward, & Wilner Scale (KWW)

More than two-thirds of the trained group (71%) gained on the custody-treatment continuum as compared with slightly more than half of the control group (53%). This gain, however, must be recognized as becoming less custodial rather than more treatment-oriented, although the direction is certainly a positive one. These data are shown in Table 8.

TABLE 8

Distribution of Analytical Statistics for the Kassebaum, Ward, & Wilner Scale (KWW) for Trained (First and Second Groups) and Non-Trained Correctional Officers

	Trainees (First Group) N = 15				Trainees (Second Group) N = 14				Non-Trained (Controls) N = 15			
Statistic	Pre	Post	D	Percent Change	Pre	Post	D	Percent Change	Pre	Post	D	Percent Change
Mean	-12.3	-6.6	5.7	46	-16.1	-14.0	2.1	13	-17.0	-10.7	6.3	37
Median	-11.0	-10.0	1.0	9	-21.0	-14.0	7.0	33	-18.0	-9.0		50
Range	-28 to 12	-25 to 30			-46 to 48	-36 to 6			-38 to 9	-41 to 9		
Number improving (less custodial)	$10.5/_{15}$				$10/_{14}$				$8/_{15}$			
Overall *p*	.075				.185				.235			

While there is a tendency for more trained *S*s to become less custodial than control *S*s, differences and changes are neither highly consistent nor appreciably significant (p = .13).

Factored Fear Survey (FFS)

Correctional officers, both trained and non-trained, reported no fear at all in most of the factors believed to be appropriate to their particular job tasks. On the specific item, *death*, officers reported no fear at all. However, they indicated that they were "a little afraid" of the *objects of death* item which included such things as fire, death of a loved one, premature heart beats, etc. There appears to be little, if any, differentiation between groups or factors.

There is a tendency for trained *S*s to show a greater decrease in total scores on the FFS from pre to post than control *S*s, but the effects are neither large, consistent, nor highly significant (p = .23). These data are contained in Table 9.

TABLE 9

Distribution of Analytical Statistics for the Factored Fear Survey (FFS) for Trained (First and Second Groups) and Non-Trained Correctional Officers

	Trainees (First Group) N = 15				Trainees (Second Group) N = 14				Non-Trained (Controls) N = 13			
Statistic	Pre	Post	D	Percent Change	Pre	Post	D	Percent Change	Pre	Post	D	Percent Change
Mean	59.4	55.0	4.4	7	64.2	61.2	3.0	5	66.3	64.3	2.0	3
Median	57.0	56.0	1.0	2	64.0	55.0	9.0	14	60.0	63.0	3.0	5
Range	45 to 89	40 to 71			43 to 94	42 to 91			47 to 103	43 to 94		
Number improving (decreasing in fear)	$10.5/_{15}$				$10/_{14}$				$8/_{15}$			
Overall p	.15				.17				.115			

Rotter Internal-External Scale (IE)

Approximately two-thirds of the trained officers reportedly "perceive" their reinforcement as more dependent upon their behavior (internal control) following training than they did prior to training. There was a comparable increase in perception of internal control of reinforcement for control *S*s, resulting in essentially no difference between groups on this measure. In addition, the changes are not statistically significant for either group. These data appear in Table 10.

TABLE 10

Distribution of Analytical Statistics for the Rotter Internal-External Scale (IE) for Trained (First and Second Groups) and Non-Trained Correctional Officers

	Trainees (First Group) N = 15				Trainees (Second Group) N = 14				Non-Trained (Controls) N = 13			
Statistic	Pre	Post	D	Percent Change	Pre	Post	D	Percent Change	Pre	Post	D	Percent Change
Mean	6.3	5.7	0.6	10	7.1	6.4	0.7	10	6.1	5.2	0.9	15
Median	6.0	5.0	1.0	17	6.0	5.5	0.5	8	6.0	5.0	1.0	17
Range	3 to 11	2 to 13			3 to 14	2 to 13			2 to 12	2 to 10		
Number improving (more internal)	$8/_{15}$				$10/_{14}$				$8.5/_{13}$			
Overall p	.25				.19				.23			

Spielberger State-Trait Anxiety Inventory (STAI)

The basic data for the two measures, state anxiety and trait anxiety, are contained in Table 11. The pre- and posttraining means, medians, and ranges are shown along with the number improving from pre to post and the associated probability of changes.

Slightly more than half of the trained *S*s decreased on both measures: 19.5/29 for state anxiety and 17.5/29 for trait anxiety. The *p* level is around .20 for both sets of numbers. About a third of the control group decreased in anxiety (state and trait) from pre to post (4/13). The magnitude of change was small in all instances. The average gain for all trained officers, for instance, amounted to 2%.

TABLE 11

Distribution of Analytical Statistics for the Spielberger State-Trait Anxiety Inventory (STAI) for Trained (First and Second Groups) and Non-Trained Correctional Officers

State Anxiety												
	Trainees (First Group) N = 15				Trainees (Second Group) N = 14				Non-Trained (Controls) N = 13			
Statistic	Pre	Post	D	Percent Change	Pre	Post	D	Percent Change	Pre	Post	D	Percent Change
Mean	35.2	36.8	1.5	4	35.7	31.4	4.3	12	34.1	35.3	1.2	4
Median	32.0	36.0	4.0	13	36.0	32.0	4.0	11	34.0	36.5	2.5	7
Range	22 to 60	21 to 55			23 to 52	22 to 41			23 to 54	23 to 47		
Number improving (less anxious)	$9/_{15}$				$10.5/_{14}$				$4/_{13}$			
Overall *p*	.46				.05				.25			
Trait Anxiety												
	N = 15				N = 14				N = 13			
Mean	35.8	33.7	2.1	6	36.3	34.8	1.5	4	34.8	34.9	0.1	3
Median	34.0	32.0	2.0	6	38.0	35.0	3.0	8	34.0	37.0	3.0	9
Range	21 to 55	20 to 49			24 to 51	23 to 47			23 to 55	23 to 49		
Number improving (less anxious)	$10.5/_{15}$				$7/_{14}$				$5.5/_{13}$			
Overall *p*	.18				.38				.48			

Combining all of the outcomes, there were 37 decreases in anxiety of the 58 measurements for the trained group and 9.5 in 26 in the comparison group. The Phi Coefficient for this two-way split was .27, $p = .02$. Thus there is a moderate group trend for trained *S*s to decrease more in anxiety as measured than non-trained ones.

Ancillary Assessment from the First and Second Groups of Officers

Correctional Officer Association with Institutional Organizations

Prior to training, five officers (17% of the trainees) were involved in some capacity with six institutional organizations. These included Jaycees, Alcoholics Anonymous, Narcotics Anonymous, Big Brother, church, and the prison band. Immediately following training, four additional trainees became involved with institutional organizations, adding the Gavel Club to their sponsorship and bringing the total number of trainees participating to nine (31%). Two of these officers indicated that training had been the deciding factor in their involvement, and two indicated that training had played a large part. The five officers who had been involved prior to training said that the training had shown them ways to encourage inmate participation and to make the organizations more effective.

While some officers did become involved with inmates through the institutional organizations as a result of training, there appears to be no evidence that this involvement had any direct effect on inmate behavior. However, should such involvement set the officer up as a concerned and interested person, then a relationship can exist in which he can function as a behavior change agent.

Booklet Evaluation from the Third Group of Officers

Table 12 summarizes the data *S* by *S* across the ten booklets used in this group's training. All *S*s increased from pre- to posttraining on all booklets, a total of 96 differences in the same direction. The range across *S*s is quite wide, ranging from 0 to 91% correct on the pretest and from 20% to 100% correct on the posttest.

TABLE 12

Summary of Individual Pre- and Posttest Percentage Gain Scores and Study Times

N = 10

	Mean Score (Percent Correct)		Mean Percentage Point Gain	Mean Study Time (in mins.)
	Pretest	Posttest		
Overall	47.3	79.0	31.7	34.0
Overall range	0 to 91	20 to 100		13 to 84
Range of means	16 to 66	68 to 96	12 to 80	24 to 42

The most impressive feature of this table is the size of the gain scores. The smallest gain was 12% and the largest 80%, indicating, along with the perfect consistency, a large impact of training on the officers' knowledge of behavior modification techniques and the history of corrections.

Also included in Table 12 are time scores. The average time per man per booklet was about 34 minutes, with a range from 24 to 42 minutes. (See Appendix A, Table L, for complete individual data.)

Table 13 contains the normative data for each booklet. Considerable variation, as expected, appears across booklets, with a range of means from about 30% to about 70% on the pretest and about 70% to 90% on the posttest. It should be mentioned again that all *S*s gained on all booklets. These data indicate a spread from 26 to 54 minutes per booklet, with an overall average of about 34 minutes.

These data suggest an acceptable level of difficulty in the booklets along with a large, consistent impact of the treatment material on posttest performance. The correlations between percent correct on the posttest and time are not significantly different from zero whether computed by *S*s or by booklets. (See Appendix A, Table M, for complete booklet data.)

TABLE 13

Summary of Booklet Pre- to Posttest Percentage Gain Scores and Study Times

N = 10

	Mean Score (Percent Correct)		Mean Percentage Point Gain	Mean Study Time (in mins.)
	Pretest	Posttest		
Overall	46.8	79	30.2	33.8
Overall range	0 to 91	20 to 100		13 to 84
Range of means	31 to 71	68 to 90	15 to 47	26 to 54

Summary of Results

The comparison of pre- and posttraining behavior of the trainees and the corresponding behavior of the non-trained officers indicated several changes as a result of training. These are summarized below. Additionally, it should be noted that interest in the training continued high throughout the sessions, as indicated by the fact that 90% of the officers

maintained nearly perfect attendance. Absenteeism in most cases was the result of illness or administrative duties.

Practicum exercises conducted by the first and second groups of trainees demonstrated that the officers are capable of employing the techniques and principles learned in training to the real-life job situation. Officers were working with problem inmate behavior primarily, both as individuals and in groups such as farm crews, but some who were in supervisory positions were working with problem officer behavior as well. The practicums also demonstrated to the officers that, by using behavior modification techniques, it is possible for them to bring about the desired behavior change in the inmate(s). The 13 officers who had completed the treatment phase of their individual projects reported satisfaction with the effects of their treatment regimens; in each case, the officer had produced a behavior change in the desired direction. In the projects of the 9 officers who had returned to baseline conditions, the effects of treatment were retained in eight cases; in one case the effects were reversible.

There is a noticeable tendency for trained correctional officers, as contrasted with non-trained officers, to show changes from pre to post in the direction of more frequent and more positive interactions with inmates, as measured by the Behavioral Observation Index (BOI). Observations also revealed an apparent behavioral schism: either the officer interacts mostly with inmates or mostly with prison personnel, but not with both. The officers who tended to be most interactive with inmates and who appeared to be receiving their reinforcement from the inmates were also more effective in their application of behavioral principles. Inmate evaluation also showed a trend for the trained officers to change in a positive direction in their behavior when compared to the non-trained officers.

The training prompted some officers to become involved with inmates through the sponsorship of institutional organizations. While there appears to be no evidence that this involvement had any direct effect on inmate behavior, such involvement provides opportunities for relationships in which the officer can function as a behavior change agent.

A significant majority of the officers indicated that the most valuable aspect of training was learning new ways of dealing with inmates. Other responses included learning techniques to use at home, gaining an understanding of why people behave as they do, and encouragement to continue doing what they have always done. In their evaluation

of the training, the officers also suggested changes to be made in the institution which would facilitate larger scale implementation of behavioral techniques.

The self-instructional booklets used in the third group's training successfully taught the principles and techniques of behavior modification, as measured by percentage point gain on the pre- and posttests for each booklet. The smallest gain for the individual subjects was 12% and the largest 80%. These figures also represent an increase in the trainees' knowledge of the history of corrections, which was included in the booklet content.

The standardized scales used to measure changes in psychological traits as a result of training failed to consistently discriminate between trained and non-trained officers. These scales were subsequently dropped, and the training assessment was modified to focus on behavioral changes.

DISCUSSION

Findings

The EMLC's Correctional Officer Training Project demonstrated that the training of line staff in the use of behavior modification is feasible. Two major findings emerged. One of these was that *correctional officers can employ behavior modification techniques and principles learned in training to on-the-job situations*. The trained officers were largely typical of the line staff of Draper Correctional Center and the Alabama correctional system in general and the country's correctional systems as a whole. It can be concluded, then, that if these men can use behavior modification on the job, correctional officers in other institutions should be able to also.

The second major finding was that *training can be conducted by means of self-instructional booklets*. This method insures a uniformity of training from one group to another, with the content covered being the same. Additionally, the self-instructional nature of the booklets enables the officers to pace themselves and to study or review at any time and place convenient for them. The discussion sessions can deal with the problems and situations peculiar to a particular institution, thus individualizing the training.

Problems and Recommendations

Certain problems were encountered in the course of the training, the majority of which resulted from a basic inertia common to all institutions--the reluctance to change. Even though the end result of training could be seen as desirable, the idea of doing things a different way was threatening. Perhaps this reluctance is due in part to the traditional attitudes of the region or to the nature of the correctional institution, but for whatever reason, the total commitment to the necessary change was missing. This became more apparent as the training proceeded, resulting ultimately in the refusal of the institution administration to allow the completion of the third group's training.

The training was thus conducted in an institution operated predominantly by staff who use aversive control procedures to maintain discipline and complete institutional tasks--a traditional custody-oriented correctional institution in which any reinforcement used for rewarding behavior was more than likely indiscriminately and unsystematically applied. The questionnaires had indicated that the line staff was interested in receiving training. Both the State Board of Corrections and the institution administration supported

the training to the extent of allowing the line staff to participate. However, this interest subsided as soon as it became apparent that the techniques taught in class called for institutional change. The attitude of some members of the institution's administrative staff in particular can be summarized thus: "When you officers are in the classroom, you do what the teaching team wants, but when you're in the prison, you do what *we* want." The officers were understandably confused as to their roles, for on one hand permission had been granted by the Board of Corrections and the Draper warden for them to train to become behavioral change agents, while on the other their immediate superiors were making it increasingly clear that custody and security were the primary concerns.

To clarify the purpose of the training, the teaching team explained to the officers that the training was designed to expand the officers' roles by providing them with new techniques of behavior control which would lessen their reliance on punishment and help them fulfill their security functions. Additionally, the past experience of one trainer in military corrections gave the officers confidence that the team was aware of the daily requirements of the job and could relate the training to these requirements. Two of the trainers also regularly visited the officers on duty to observe on-the-job situations and familiarize themselves with the security problems involved. (At the same time these visits gave the trainers cues to certain behaviors of inmates which could be treated in the officers' practicum exercises.) This contact and demonstration of interest quelled the officers' doubts and resulted in their continued participation in the training, but administrative reluctance on the part of the officers' immediate superiors, combined with a less obvious incapacity to change from the custody orientation, eventually affected the training and the officers' enthusiasm.

Three major problems resulted from the absence of the administration's total commitment to the training and its reluctance to change: (1) the lack of an institution-wide setting (or a portion of the institution) keyed to the behavioral approach, (2) the absence of systematic reinforcement for officer trainees from key administrative personnel, and (3) the indirect interference with the practicum exercises which were conducted. The first of these problems severely limited the opportunities for the trained officers to begin and complete practicum exercises or to continue applying behavioral techniques after training, both of which were considered critical to maintaining their new skills. Although an EMLC token economy was operating in one cellblock of the institution, a shortage of line

personnel and the need for security made it impossible for the trainees to conduct their practicums there.

Additionally, the trainees were not reinforced by the administration or their peer officers for their participation in the training. In fact, since the training often contradicted the usual institutional approach to such matters as discipline and correctional procedures, the trainees were subjected to occasional ridicule and sometimes received direct orders which countermanded their attempts to use behavior modification techniques on their inmate charges. The trainees began to view the training as useless, for they could see that they would not be encouraged or allowed to practice what they were learning. As the training proceeded the futility was increasingly felt, as evidenced by the relatively small number of officers who completed their practicum exercises. It was indeed a surprise to discover that in their evaluation of the training most officers responded that training had been of value to them in their work and in their home situations. It is also to the officers' credit that they continued in training as long as they did, for the participation required extra hours with no compensation from the institution.

The third problem, that of indirect interference with the practicum exercises, was obviously related to the two previous problems. Many of the reasons given by the officers for not completing practicum exercises revolved around institutional job reassignments and inmate transfers. While the practicum exercises may take as long as three months, much of the interruption of these exercises probably could have been avoided if the institution administration had been more committed to the training--e.g., inmate transfers could sometimes have been delayed.

As a result of the EMLC's experiences in training the three groups of officers, certain recommendations in regard to planning a similar program can be made. Specifically, these recommendations are as follows:

1. *Review the training goals with the Board or Department of Corrections as well as the institution administration*. This should be done early in the planning stages and should include an overview of the behavior modification approach and a detailed description of what the training is designed to accomplish. The review will thus clarify the fact that the training is incompatible with a punitive approach to the control of inmate behavior and will dispel any expectations the administration may have that the trainees will become "super custodians."

2. *Involve the institution administration as much and as directly as possible in the training*. Ideally, the training should be conducted by institution staff. If this is not possible, however, their active participation in the training sessions is urged. For example, they should read the training booklets; attend the discussion sessions; help plan practicum exercises, particularly if they observe inmate behaviors that may need reinforcing or elimination; and, in general, verbalize their support for the behavioral orientation.

3. *Schedule practicum exercises to allow for their completion*. Since the practicum exercise is perhaps the most accurate means of evaluating the effectiveness of the training and provides an opportunity for the monitored use of new skills, each trainee should have the opportunity to complete at least one practicum exercise. His work schedule should be arranged to allow a three-month period for his exercise, and transfer of his inmate subjects and his reassignment to another job should be avoided whenever feasible. In some cases it may be possible to have other trained officers assist in data collection if the trainee is forced to be absent.

4. *Allow the trained correctional officers to continue to use their new skills in the institution*. The institution administration should make detailed plans as to how the trained officers will function after their training. This may involve converting one wing of the institution, or the entire institution, to a behavioral model. Whatever the plans are, they should give each officer every opportunity to make use of what he has learned in the training.

5. *Provide reinforcement for the officer trainees*. Reinforcement should primarily be the responsibility of the institution and would ideally take the form of salary increases and job promotions. Other reinforcers are available as well, including desirable duty assignments, compensatory time off, a special citation from the trainee's immediate supervisor, or a certificate of recognition at the completion of training. A simple display of interest (e.g., asking about how a practicum exercise is going) by key administrative staff could also be reinforcing to the trainees. It is important, however, that all such reinforcement be awarded on a systematic basis to be maximally effective.

6. *If the training is conducted by personnel from outside the institution, they should familiarize themselves with the requirements of the trainees' jobs*. This should involve spending as much time as possible with each trainee on his job. Examples used in the training could then be addressed to particular situations to help the trainees in applying the techniques, and plans for practicum exercises could be better evaluated and designed.

The trainees would also feel some assurance that the trainers were aware of the nature of the officers' jobs and that this had been considered in presenting the behavioral control techniques. The development of positive relationships between trainers and the trainees--"getting to know one another"--appears to be a key component of effective training.

Advantages and Limitations of this Training Approach

The behavioral approach to solving some of the problems facing correctional staff, as embodied in this training, has not been accepted as a panacea, nor should it. However, the approach approximates the outside world much more closely than does the traditional custody orientation of many institutions. People learn quickly in a behaviorally oriented program that it is not a "give-away" operation; rather, they must earn the reinforcers they receive through appropriate behavior. In many ways it is a "tougher" system, but one which focuses on the positive aspects of behavior. In the custody orientation, officers are taught to react to the negative side of life in the institution and, by paying more attention to recurring inappropriate behavior, are reinforcing it. Opportunities to reinforce appropriate behavior, however, are often overlooked, or these behaviors are reinforced indiscriminately by only a few.

Training in the use of behavior modification techniques has opened the door for the correctional officer to become a positive change agent. By virtue of his daily contact with the inmates, he is, probably more than anyone else in the institution, most capable of creating the desired change in the inmates. He should be given the opportunity to work more closely with inmates in the institutional programs.

At the same time, the institution's administration should reexamine its orientation as translated from the rule books, statutes, codes, etc., and applied to the everyday lives of inmates. The EMLC's training approach and the self-instructional materials developed offer a progressive correctional administration the tools with which to establish a positively oriented training program for line staff in any institution, the first step in converting the entire institution to the behavioral model.

The EMLC training package which was used has limitations, however, primarily because it is so new. The first ten booklets were tried out with the third group of trainees, and the pre- to posttest gain scores demonstrated that the men had learned the material. It was at this point that the institution administration ordered the training halted. Thus

the second ten booklets in the series, containing material on graphing and contracting for behavior, were not tried out and the practicum exercises were not conducted.

At present, therefore, the effectiveness of the additional booklets, and of this method of training, can only be gauged by the percent gain scores from the first ten booklets. Without the practicums there is little way to measure whether the trainees can apply what they have learned, although positive changes in their behavior toward the inmates were observed.

The tryout of the first ten booklets provided the basis for revisions which will change some of the examples used to depict on-the-job situations. While no content changes are contemplated, vocational training situations will replace several of the agrarian examples. These changes will make the materials more relevant and universal, since many institutions are doing away with farming.

The training package will be accompanied by an instructor's guide, which will recommend the desired size of training classes, the type of facilities, length of time needed for training (about 40 hours of "instruction"–20 hours for the booklets and 20 hours for discussion–and approximately three months of practicum work), the various assessment techniques that may be used, suggested additional readings for both trainers and trainees, selected films to supplement portions of the training, and other pertinent suggestions. Any training beyond the EMLC's package must, of course, be decided on an individual program basis.

The advantages of the self-instructional booklets are obvious: the officers can complete the booklets at whatever time and place are convenient for them, without the expense of the trainers' time. But while the materials developed by EMLC staff are sufficient to teach the principles and application of behavior modification, training staff will be needed to guide the discussion sessions and supervise the practicums. It is suggested that the training staff have a general orientation to behavior modification through college course work and/or experience. It is also suggested that periodic consultation with experts in the behavioral field be made a part of the training program, especially if continued use of the principles in the institution is planned.

In summary, the experiences of the Correctional Officer Training Project of the EMLC were strongly positive. The principles of behavior modification were successfully taught to the line staff correctional officer, and he was able to employ them in his work situation. The self-instructional training package, though in need of some revision, is an efficient

and effective teaching vehicle for the correctional officer. But, looking forward to future success in implementing the techniques of behavioral science via the correctional officer, it must be reemphasized that the traditional institution of corrections is a new area for behavior science. The achievements of the EMLC were but initial steps in the long-range process of institutional change. Successive innovations of behavioral science through the correctional officer will require care and caution from the trainers to achieve and maintain the needed cooperation and coordination between researchers, institutional administrators, and the related state agencies.

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APPENDIX A

Data

TABLE A

Results of TABLE Testing

First Group Trainees (N = 15) Second Group Trainees (N = 15) Controls (N = 15)

		Average	Range
Reading:			
Vocabulary	First Group Trainees	7.1	5.0 - 12.0
	Second Group Trainees	6.9	3.0 - 12.8
	Combined (First and Second Groups)	7.0	3.0 - 12.8
	Controls	7.5	3.9 - 11.1
	Overall	7.1	3.0 - 12.8
Comprehension	First Group Trainees	6.6	4.1 - 10.8
	Second Group Trainees	7.0	2.6 - 11.6
	Combined (First and Second Groups)	6.8	2.6 - 11.6
	Controls	7.1	3.7 - 11.9
	Overall	6.9	2.6 - 11.9
Total Reading	First Group Trainees	6.8	5.0 - 11.2
	Second Group Trainees	6.8	2.9 - 11.8
	Combined (First and Second Groups)	6.9	2.9 - 11.8
	Controls	7.5	4.1 - 11.3
	Overall	7.0	2.9 - 11.8
Arithmetic:			
Reasoning	First Group Trainees	6.6	5.1 - 8.9
	Second Group Trainees	6.5	2.3 - 10.0
	Combined (First and Second Groups)	6.6	2.3 - 10.0
	Controls	7.3	4.1 - 12.0
	Overall	6.8	2.3 - 12.0
Fundamentals	First Group Trainees	6.9	5.2 - 9.1
	Second Group Trainees	6.7	4.1 - 11.0
	Combined (First and Second Groups)	6.8	4.1 - 11.0
	Controls	7.2	4.7 - 11.7
	Overall	6.9	4.1 - 11.7
Total Arithmetic	First Group Trainees	7.0	5.2 - 8.9
	Second Group Trainees	6.7	3.8 - 10.5
	Combined (First and Second Groups)	6.9	3.8 - 10.5
	Controls	7.3	4.9 - 11.9
	Overall	7.0	3.8 - 11.9

TABLE A (Cont'd)

Language:		Average	Range
Mechanics of English	First Group Trainees	5.8	3.8 - 10.1
	Second Group Trainees	5.7	3.2 - 9.5
	Combined (First and Second Groups)	5.8	3.2 - 10.1
	Controls	6.2	3.3 - 9.4
	Overall	5.9	3.2 - 10.1
Spelling	First Group Trainees	6.7	4.5 - 12.4
	Second Group Trainees	5.9	2.4 - 11.8
	Combined (First and Second Groups)	6.3	2.4 - 12.4
	Controls	7.3	4.1 - 12.4
	Overall	6.6	2.4 - 12.4
Total Language	First Group Trainees	6.0	4.0 - 10.6
	Second Group Trainees	5.8	3.1 - 9.2
	Combined (First and Second Groups)	5.9	3.1 - 10.6
	Controls	6.4	3.9 - 9.7
	Overall	6.1	3.1 - 10.6
TOTAL BATTERY:			
	First Group Trainees	6.6	5.0 - 9.8
	Second Group Trainees	6.5	3.2 - 10.9
	Combined (First and Second Groups)	6.5	3.2 - 10.9
	Controls	7.1	4.6 - 10.9
	Overall	6.7	3.2 - 10.9

Table B

Correlation Coefficients (Spearmen Rank Order) for Indices on the BOI Compiled from Ninety Hours of Observations (Second Group of Officers)

Behavior Index	Behavior Index								
	1	2	3	4	5	6	7	8	9
1. Total number of interactions	–								
2. Verbal contact (with inmates) score (content and tone)	-.42								
3. Percent interactions with inmates	+.63	+.02							
4. Percent personal interactions with inmates	-.37	+.24	+.06						
5. Percent personal interactions with inmates initiated by the officer	+.11	+.25	-.15	-.26					
6. Behavioral response score	+.18	-.19	+.26	+.51	-.33				
7. Average number of inmates per interaction	+.56	-.26	+.05	-.28	+.63	-.09			
8. Verbal contact (with others) score	+.13	+.28	-.18	-.31	+.59	-.36	+.45		
9. Percent personal interactions with others	+.28	-.08	+.06	-.22	+.31	-.28	+.42	+.57	–

Note.–Data obtained from six-hour observations of 15 officers.

Table C

Frequency With Which Inmate Behaviors Scored on the BOI Occurred During 306 Hours of Direct Observation of Correctional Officers (15 Trainees and 15 Controls) Prior to Training

Behavior	Frequency of Occurrence
Inmate performs poorly on job, indicating little effort (working slowly or not fulfilling job requirements)	60
After reprimands inmate still performs poorly on the job, showing little effort	2
Inmate caught not working (first time)	8
Inmate late for work without legitimate excuse (first time)	2
Inmate misses backgate, therefore completely missing work detail without legitimate excuse	2
Inmate complaining about job, asking for transfer	1
Inmate makes inappropriate comment to officer (cursing, arguing, or sarcasm)	7
Inmate starts horseplay with officer	4
Inmate ignores officer's comments or orders	1
Inmate makes an inappropriate request of officer	6
Inmate wrestling or horseplaying with other inmates inside institution or on work detail	7
Inmate threatening, bullying, or arguing with other inmates without legitimate reason	2
Inmate breaking chow line	2
Inmate caught running in hall	1
Inmate in inappropriate area	15
Inmate involved in inappropriate behavior:	
Wearing hat indoors	
Littering	
Wearing inappropriate clothing	13
Not maintaining single or proper line	
Sitting in hallway	
Unnecessarily noisy	
Inmate doesn't appear at designated area when told to do so	1
Inmate's personal appearance bad	2
Inmate volunteers for extra work	1

(continued)

Table C continued:

Behavior	Frequency of Occurrence
Inmate is late for chow without legitimate excuse	1
Inmate's efforts facilitate the overall job (works fast, does good job, or finishes early)	45
Inmate not watching where going (running into people without apologizing)	1
Inmate's personal appearance good	1
Inmate working on hobby during his free time	2
Inmate initiates bull session, joke, or personal discussion with officer	281
Inmate initiates greeting to officer	38
Inmate shows respect and manners in his interactions with officers	22
Inmate makes request for or appears to need assistance (needs more instructions or attention on job)	19
Inmate caught with an inappropriate object in institution (minor objects--books or magazines)	2
Inmate caught with an inappropriate object in institution (intermediate objects--alcoholic drinks, tools, or green money)	1
Inmate attempting to bring in an inappropriate object found during search at backgate (intermediate objects--alcoholic drinks, tools, or green money)	1
Inmate volunteers to work for pay (offers to give shoe shine)	4
Inmate makes request for appropriate personal object or privilege	68
Inmate involved in games or bull sessions with others	1
Inmate has legitimate complaint (asks to go to hospital)	3
Inmate comments about his own appropriate behavior	1
Inmate found to be continuing inappropriate behavior after an earlier reprimand on same day:	
Threatening or bullying other inmates	
Sitting in hallway	
Running in hallway	
Wearing hat indoors	4
Littering	
Hanging around inappropriate area	
Wrestling or horseplay	
Unnecessarily noisy	
Inmate trying to obtain an inappropriate privilege	5
Total	637

Note.--This table has been included to give an indication of the kinds of inmate behavior occurring during the officers' shifts to which the officers could respond.

TABLE D

Individual Data for Trained (E) and Non-Trained (C) Correctional Officers (Second Group) for the Nine Behavioral Indices of the BOI: Pre- to Posttraining Change Scores

Total Number of Interactions		
Subject	**E (Trained) N = 9**	**C (Non-Trained) N = 7**
1	14	34
2	21	- 6
3	20	34
4	4	47
5	-22	-11
6	- 5	23
7	4	-29
8	15	
9	9	

	E	C
Number gaining	7	4
Number losing	2	3

Q = .45
p = .03

Verbal Contact (With Inmates) Score (Content and Tone)		
Subject	**E (Trained) N = 9**	**C (Non-Trained) N = 7**
1	-.03	.12
2	-.05	.21
3	.40	.02
4	.30	- 11
5	.14	-.60
6	.19	.11
7	-.10	-.07
8	.15	
9	.17	

	E	C
Number gaining	6	3
Number losing	3	4

Q = .46
p = .03

TABLE D (Cont'd)

Percent Personal Interactions with Inmates Initiated by the Officer		
Subject	**E (Trained) N = 9**	**C (Non-Trained) N = 7**
1	-53	-56
2	-31	-67
3	-19	9
4	-29	-20
5	-12	-83
6	-27	- 8
7	-37	- 2
8	-24	
9	-20	

	E	C
Number gaining	0	1
Number losing	9	6

Q = -.20
p = .44

Behavioral Response Score		
Subject	**E (Trained) N = 9**	**C (Non-Trained) N = 7**
1	.48	.24
2	.23	.17
3	.04	.20
4	.72	.34
5	.38	.66
6	.22	.47
7	.36	.00
8	-.17	
9	.35	

	E	C
Number gaining	8	6.5
Number losing	1	0.5

Q = .24
p = .19

TABLE D (Cont'd)

Average Number of Inmates Per Interaction		
Subject	**E (Trained) N = 9**	**C (Non-Trained) N = 7**
1	- .29	.12
2	.08	- .15
3	.20	- 2.76
4	.23	- 1.85
5	-5.92	-10.90
6	- .15	- .07
7	-1.20	.00
8	- .28	
9	-6.62	

	E	C
Number gaining	3	1.5
Number losing	6	5.5

Q = -.29
p = .29

Verbal Contact (With Others) Score		
Subject	**E (Trained) N = 9**	**C (Non-Trained) N = 7**
1	.14	.15
2	-.08	.05
3	.39	-.03
4	.02	-.11
5	.00	-.03
6	-.21	.18
7	.00	.12
8	-.08	
9	.05	

	E	C
Number gaining	5	4
Number losing	4	3

Q = -.03
p = .92

TABLE D (Cont'd)

Percent Interactions with Inmates		
Subject	**E (Trained) N = 9**	**C (Non-Trained) N = 7**
1	23	-24
2	-30	- 9
3	8	-16
4	6	-10
5	- 7	- 6
6	-30	- 6
7	-17	- 1
8	0	
9	- 1	

	E	C
Number gaining	3.5	0
Number losing	5.5	7

Q = .63
p = .001

Percent Personal Interactions with Inmates		
Subject	**E (Trained) N = 9**	**C (Non-Trained) N = 7**
1	32	30
2	-16	19
3	-34	23
4	41	19
5	12	- 7
6	- 7	18
7	8	- 1
8	-15	
9	9	

	E	C
Number gaining	5	5
Number losing	4	2

Q = -.33
p = .21

TABLE D (Cont'd)

Percent Personal Interactions with Others		
Subject	**E (Trained) N = 9**	**C (Non-Trained) N = 7**
1	-22	50
2	- 1	12
3	24	10
4	- 2	15
5	4	- 4
6	-22	24
7	-19	12
8	- 6	
9	6	

	E	C
Number gaining	3	6
Number losing	6	1

Q = -.85
p = .01

TABLE E

Individual Data for Trained (E) and Non-Trained (C) Correctional Officers (Third Group) for the Seven Behavioral Indices and Overall Evaluation of the BOI: Pre- to Posttraining Change Scores

Verbal Contact (With Inmates) Score (Content)		
Subject	E (Trained) N = 8	C (Non-Trained) N = 8
1	-12.5	- 6.7
2	-10.5	-25.0
3	0	- 7.7
4	-18.2	-10.0
5	5.9	0
6	4.0	0
7	0	0
8	0	-17.1
Q = .47 *p* = .05		

Verbal Contact (With Inmates) Score (Tone)		
Subject	E (Trained) N = 8	C (Non-Trained) N = 8
1	8.2	-33.3
2	-84.2	-25.0
3	42.8	- 6.9
4	- 6.8	-30.0
5	-14.5	-66.1
6	28.0	- 4.0
7	16.7	9.8
8	-13.3	-31.4
Q = .61 *p* = .02		

Note.--Q is an average of two correlations, one derived by a positive-negative dichotomy and the other by use of the mean as hi-lo breaking point.

TABLE E (Cont'd)

Percent Personal Interactions with Inmates		
Subject	E (Trained) N = 8	C (Non-Trained) N = 8
1	2.0	20.0
2	-21.0	12.0
3	4.0	- 5.0
4	- 6.0	-50.0
5	-40.0	-25.0
6	- 4.0	-12.0
7	0	9.0
8	-28.0	-31.0
Q = .13 *p* = .31		

Percent Personal Interactions with Inmates Initiated by the Officer		
Subject	E (Trained) N = 8	C (Non-Trained) N = 8
1	- 3.0	-80.0
2	-79.0	63.0
3	8.0	-22.0
4	4.0	-20.0
5	39.0	0
6	28.0	56.0
7	17.0	- 2.0
8	12.0	17.0
Q = .49 *p* = .04		

Behavioral Response Score (Percent Positive Reinforcement Only)		
Subject	E (Trained) N = 8	C (Non-Trained) N = 8
1	-23.0	-20.0
2	-16.0	0
3	12.0	10.0
4	17.0	-55.0
5	30.0	0
6	4.0	- 4.0
7	84.0	8.0
8	47.0	-51.0
Q = .65 *p* = .02		

TABLE E (Cont'd)

Percent One-to-One Interactions (Correctional Officer With Inmate)		
Subject	E (Trained) N = 8	C (Non-Trained) N = 8
1	6.0	-80.0
2	-89.0	63.0
3	-76.0	-22.0
4	-82.0	-20.0
5	-60.0	0
6	-56.0	56.0
7	0	- 2.0
8	-17.0	17.0
Q = -.67 *p* = .01		

Number of Contacts With Inmates		
Subject	E (Trained) N = 8	C (Non-Trained) N = 8
1	18.8	-100.0
2	-100.0	- 50.0
3	- 4.0	46.0
4	45.0	- 60.0
5	82.0	- 13.0
6	0	- 96.0
7	- 66.0	- 13.0
8	- 4.0	- 29.0
Q = .71 *p* = .009		

Overall Evaluation		
Subject	E (Trained) N = 8	C (Non-Trained) N = 8
1	- .5	-50.0
2	-50.0	-12.5
3	6.0	- 7.3
4	- 1.0	-25.0
5	- 4.2	- 6.7
6	4.0	- 4.0
7	8.4	4.0
8	- 2.0	-30.0
Q = .69 *p* = .01		

TABLE F

Inmate Evaluation: Pre- to Posttraining Change Scores for Mentioned Trained and Non-Trained (Controls, Other) Correctional Officers (First and Second Groups) Across the Four Measures

Subject	First Group Trainees N = 9	Second Group Trainees N = 7	Controls (Non-Trained) N = 7	Other Non-Trained N = 7
General Caliber				
1	0.0	-0.8	0.1	1.2
2	0.7	-1.1	-0.9	-0.4
3	-0.5	0.6	0.4	-1.1
4	0.5	-1.5	0.0	-0.3
5	0.1	0.7	0.0	1.7
6	0.3	-0.3	-1.6	-0.8
7	-0.7	0.0	1.0	-1.0
8	0.2			
9	0.7			
Mean	0.1	-0.3	-0.1	-0.1
Median	0.2	0.0	0.0	-0.4
Range	-0.7 to 0.7	-1.1 to 0.7	-1.6 to 1.0	-1.0 to 1.7
Punitiveness				
1	1.4	-0.3	0.2	0.8
2	-0.8	-1.6	-2.1	-0.2
3	0.3	0.4	0.9	-0.6
4	0.9	-0.8	1.2	0.4
5	0.0	0.3	0.5	0.5
6	0.5	0.4	-1.0	1.0
7	0.2	0.9	-0.1	-0.7
8	1.5			
9	0.4			
Mean	0.5	-0.1	-0.1	0.2
Median	0.4	0.3	0.2	0.4
Range	-0.8 to 1.5	-1.6 to 0.9	-2.1 to 1.2	-0.7 to 1.0

TABLE F (Cont'd)

Concern with Inmate Welfare				
Subject	First Group Trainees N = 9	Second Group Trainees N = 7	Controls (Non-Trained) N = 7	Other Non-Trained N = 7
1	1.0	-0.1	-0.2	-0.6
2	-0.5	-2.6	-1.7	-0.3
3	-0.2	0.2	0.5	-0.2
4	0.5	0.0	0.4	0.6
5	0.2	0.8	-1.4	0.5
6	-1.1	1.0	-1.0	1.0
7	0.7	0.5	0.7	0.0
8	0.0			
9	1.3			
Mean	0.2	-0.03	-0.4	0.1
Median	0.2	0.2	-0.2	0.0
Range	-1.1 to 1.3	-2.6 to 1.0	-1.7 to 0.7	-0.6 to 1.0
Fairness				
1	-0.3	-0.4	1.1	-2.7
2	1.0	-1.4	0.3	-0.5
3	1.0	-0.2	1.0	-1.4
4	0.5	-1.2	1.0	-0.3
5	-0.5	1.5	-0.2	1.0
6	0.0	0.8	1.3	1.4
7	-0.8	1.3	1.0	0.5
8	0.5			
9	1.3			
Mean	0.3	0.1	0.8	-0.3
Median	0.5	-0.2	1.0	-0.3
Range	-0.8 to 1.3	-1.4 to 1.5	-0.2 to 1.3	-2.7 to 1.4

TABLE G

Inmate Evaluation: Pre- to Posttraining Change Scores for Mentioned Trained and Non-Trained (Controls) Correctional Officers (Third Group) Across the Four Measures

General Caliber		
Subject	Trainees N = 10	Controls (Non-Trained) N = 10
1	0	0
2	-.2	1.0
3	-.3	0
4	.1	- .5
5	.1	- .3
6	.6	- .6
7	-.4	.5
8	-.5	- .6
9	-.1	0
10	-.8	-1.1
Mean	-.15	- .16
Median	-.15	- .15
Range	-.8 to .6	-1.1 to 1.0
Punitiveness		
1	.6	- .1
2	-.9	- .1
3	.2	- .1
4	0	- .5
5	.2	- .5
6	-.4	- .3
7	-.4	.1
8	-.2	.1
9	-.1	- .2
10	-.5	- .6
Mean	-.15	- .09
Median	-.15	- .15
Range	-.9 to .6	-.6 to .1

TABLE G (Cont'd)

Concern with Inmate Welfare		
Subject	Trainees N = 10	Controls (Non-Trained) N = 10
1	-.5	- .8
2	-.2	.2
3	.1	- .2
4	0	- .7
5	-.5	- .4
6	.1	- .4
7	.1	- .4
8	0	- .5
9	.7	.1
10	-.3	- .1
Mean	-.05	- .96
Median	0	- .4
Range	-.5 to .7	-.8 to .2
Fairness		
1	0	- .4
2	-.2	.7
3	-.1	- .4
4	-.1	.2
5	.1	- .4
6	.4	- .8
7	-.1	.3
8	-.3	- .8
9	0	0
10	-.8	- .1
Mean	-.09	- .17
Median	-.10	- .25
Range	-.8 to .4	-.8 to .7

TABLE H

Inmate Evaluation: Combined Change Scores Across the Four Measures (General Caliber, Punitiveness, Concern with Inmate Welfare, Fairness) for Trained and Non-Trained (Control, Other) Correctional Officers (First and Second Groups)

Subject	First Group Trainees N = 9	Second Group Trainees N = 7	Controls (Non-Trained) N = 7	Other Non-Trained N = 7
1	0.50	-0.40	0.30	-0.3
2	0.10	-1.70	-1.10	-0.4
3	0.20	0.25	0.70	-0.8
4	0.60	-0.90	0.70	0.1
5	-0.05	0.80	-0.15	0.9
6	-0.07	0.50	-0.60	0.6
7	-0.15	0.70	0.50	-0.3
8	0.55			
9	0.90			
Mean	0.29	-0.10	0.05	-0.03
Median	0.20	0.25	0.30	-0.30
Range	-0.15 to 0.90	-1.70 to 0.80	-1.10 to 0.70	-0.8 to 0.9

Q derived by use of the grand median as hi-lo breaking point.

	Trainees	Non-Trained
Hi	9	6
Lo	7	8

Q = .27
p = .07

Q derived by positive-negative dichotomy.

	Trainees	Non-Trained
Number increasing	10	7
Number decreasing	6	7

Q = .25
p = .08

TABLE I

Inmate Evaluation: Combined Overall Change Scores Across the Four Measures (General Caliber, Punitiveness, Concern with Inmate Welfare, Fairness) for Trained and Non-Trained (Controls) Correctional Officers (Third Group)

Subject	Trainees N = 10	Controls (Non-Trained) N = 10
1	.02	-.32
2	-.38	.45
3	-.03	-.18
4	.00	-.37
5	-.03	-.40
6	.08	-.52
7	-.20	.12
8	-.27	-.45
9	.13	-.03
10	-.60	-.47
Mean	-.08	-.27
Median	-.03	-.35
Range	-.6 to .1	-.5 to .5

Q derived by use of the grand median as the hi-lo breaking point.

	Trainees	Non-Trained
Hi	6	4
Lo	4	6

Q = .38

p = .17

Q derived by positive-negative dichotomy.

	Trainees	Non-Trained
Number increasing	4	2
	6	8

Q = .42

p = .07

TABLE J

Pre- to Posttraining Data for the Kassebaum, Ward, & Wilner Scale (KWW) for Trained (First and Second Groups) and Non-Trained Correctional Officers

Subject	Trained			Non-Trained (Controls)		
	Pre	Post	D	Pre	Post	D
1	-17	-16	1	-25	-19	6
2	-11	-19	- 8	-37	-41	- 4
3	-20	-22	- 2	-38	- 8	30
4	12	- 9	-21	-17	-18	- 1
5	-18	-18	0	-20	-22	- 2
6	-24	-13	11	- 5	-10	- 5
7	2	-10	-12	-24	9	33
8	-11	- 6	5	-16	- 2	14
9	- 6	30	36	-22	- 9	13
10	- 1	24	25	- 4	- 6	- 2
11	-20	-13	7	9	5	- 4
12	-24	-10	14	- 6	- 4	2
13	-28	-25	3	-19	- 4	15
14	-10	14	24	-13	-11	2
15	- 9	- 6	3	-18	-20	- 2
16	-12	6	18			
17	-19	-18	1			
18	- 9	- 7	2			
19	-33	- 3	30			
20	-23	-20	3			
21	48	-13	-35			
22	3	- 8	-11			
23	-46	-36	10			
24	-26	-14	12			
25	-25	-27	- 2			
26	-12	-15	- 3			
27	-14	- 2	12			
28	-25	-14	11			
29	-32	-25	7			

TABLE K

Pre- to Posttraining Data for the Factored Fear Survey (FFS) for Trained (First and Second Groups) and Non-Trained Correctional Officers

Subject	Trained			Non-Trained (Controls)		
	Pre	Post	D	Pre	Post	D
1	60	58	2	47	45	2
2	45	57	-12	95	90	5
3	61	65	- 4	69	72	- 3
4	57	45	12	59	54	5
5	67	54	13	60	47	13
6	70	64	6	103	94	9
7	55	64	- 9	73	81	- 8
8	55	47	8	47	43	4
9	72	71	1	56	63	- 7
10	70	56	14	60	56	4
11	45	58	-13	62	67	- 5
12	46	46	0	56	55	1
13	89	56	33	75	69	6
14	52	44	8			
15	47	40	7			
16	64	50	14			
17	58	42	16			
18	58	56	2			
19	79	88	- 9			
20	57	60	- 3			
21	49	44	5			
22	86	76	10			
23	43	52	- 9			
24	64	91	-27			
25	94	86	8			
26	72	62	10			
27	59	54	5			
28	80	53	27			
29	78	43	35			

TABLE L

Pre- to Posttraining Data for the Rotter Internal-External Scale (IE) for Trained (First and Second Groups) and Non-Trained Correctional Officers

Subject	Trained			Non-Trained (Controls)		
	Pre	Post	D	Pre	Post	D
1	6	4	2	7	6	1
2	3	3	0	12	5	7
3	11	5	6	6	7	- 1
4	9	10	- 1	5	3	2
5	5	7	- 2	7	4	3
6	3	2	1	7	10	- 3
7	5	3	2	3	9	- 6
8	6	10	- 4	4	3	1
9	8	5	3	6	5	1
10	7	4	3	6	4	2
11	5	5	0	5	4	1
12	8	4	4	9	6	3
13	10	13	- 3	2	2	0
14	5	6	- 1			
15	3	5	- 2			
16	12	11	1			
17	6	4	2			
18	4	3	1			
19	5	4	1			
20	14	11	3			
21	4	6	- 2			
22	8	2	6			
23	5	4	1			
24	10	13	- 3			
25	11	7	4			
26	6	8	- 2			
27	7	5	2			
28	5	9	- 4			
29	3	2	1			

TABLE M

Pre- to Posttraining Data for the Spielberger State-Trait Anxiety Inventory (STAI) for Trained (First and Second Groups) and Non-Trained Correctional Officers (State Anxiety Only)

Subject	Trained			Non-Trained (Controls)		
	Pre	Post	D	Pre	Post	D
1	24	22	2	23	23	0
2	26	21	5	35	28	7
3	56	36	20	42	47	- 5
4	30	55	-25	26	28	- 2
5	39	46	- 7	23	26	- 3
6	29	43	-14	54	45	9
7	22	47	-25	48	43	5
8	32	30	2	27	28	- 1
9	60	50	10	28	34	- 6
10	32	26	6	34	34	0
11	26	25	1	35	42	- 7
12	24	29	- 5	34	39	- 5
13	54	55	- 1	35	41	- 6
14	36	30	6			
15	40	37	3			
16	30	23	7			
17	25	22	3			
18	35	39	- 4			
19	52	39	13			
20	36	38	- 2			
21	23	26	- 3			
22	40	32	8			
23	29	28	1			
24	39	37	2			
25	36	32	4			
26	41	41	0			
27	38	36	2			
28	37	24	13			
29	34	23	11			

TABLE N

Pre- to Posttraining Data for the Spielberger State-Trait Anxiety Inventory (STAI) for Trained (First and Second Groups) and Non-Trained Correctional Officers (Trait Anxiety Only)

Subject	Trained			Non-Trained (Controls)		
	Pre	Post	D	Pre	Post	D
1	27	31	- 4	35	30	5
2	21	20	1	40	44	- 4
3	47	40	7	49	49	0
4	41	46	- 5	35	26	9
5	40	39	1	23	23	0
6	28	32	- 4	55	41	14
7	26	21	5	43	43	0
8	29	39	-10	24	23	1
9	55	46	9	31	44	-13
10	43	27	16	25	25	0
11	34	29	5	34	37	- 3
12	24	24	0	29	33	- 4
13	54	49	5	29	40	-11
14	32	27	1			
15	36	35	1			
16	31	30	1			
17	24	27	- 3			
18	34	40	- 6			
19	43	47	- 4			
20	36	41	- 5			
21	24	23	1			
22	43	45	- 2			
23	38	25	13			
24	38	44	- 6			
25	39	41	- 2			
26	51	42	9			
27	34	29	5			
28	45	28	17			
29	30	25	5			

Table O

Individual Pre-Posttest Percentage Gain Scores and Study Times

N = 10

Subject	Mean Percent Score		Mean Percentage Point Gain	Mean Study Time (in minutes)
	Pretest	Posttest		
1	54.3	73.2	18.9	35.4
Range	27 to 90	40 to 100		29 to 46
2[a]	16.1	96.0	79.9	24.3
Range	0 to 67	86 to 100		20 to 34
3	56.1	68.2	12.1	41.8
Range	43 to 87	43 to 100		22 to 58
4	24.7	52.0	27.3	31.5
Range	0 to 70	20 to 90		20 to 50
5	53.4	93.1	39.7	32.8
Range	28 to 70	80 to 100		19 to 68
6	55.0	87.1	32.1	39.2
Range	28 to 80	60 to 100		22 to 84
7	47.1	75.8	28.7	32.1
Range	30 to 80	40 to 100		19 to 60
8	52.5	69.7	17.2	24.0
Range	20 to 80	30 to 90		13 to 45
9	66.0	88.2	22.2	30.7
Range	43 to 91	70 to 100		18 to 62
10	48.1	86.2	38.1	38.3
Range	27 to 80	70 to 100		27 to 52

[a]Based on scores from 6 completed booklets.

Table P

Booklet Pre-Posttest Percentage Gain Scores and Study Times

N = 10

Booklet	Mean Percent Score		Mean Percentage Point Gain	Mean Study Time (in minutes)
	Pretest	Posttest		
1	54	85	31	29
Range	0 to 90	20 to 100		19 to 38
2	59	89	30	28
Range	4 to 87	67 to 100		13 to 41
3	34	81	47	30
Range	0 to 57	57 to 100		24 to 38
4	31	72	41	33
Range	0 to 57	43 to 100		19 to 46
5	42	76	34	36
Range	0 to 91	36 to 100		24 to 49
6	44	84	40	28
Range	0 to 86	43 to 100		20 to 52
7[a]	53	68	15	41
Range	30 to 80	30 to 100		20 to 59
8	47	68	21	54
Range	20 to 60	40 to 90		23 to 84
9	71	90	19	34
Range	60 to 80	70 to 100		25 to 47
10	53	77	24	26
Range	30 to 80	40 to 100		16 to 41

[a]Only 9 Subjects completed booklets 7 through 10.

APPENDIX B

Forms

Questionnaire used to determine initial interest of officers in receiving training.

The Rehabilitation Research Foundation will sponsor a correctional officer training program in the management of inmate behavior in real life situation. Would you be interested in participating in such a training program?

Directions: Circle the response that applies.

a. Very interested

b. Interested

c. Do not care one way or the other

d. Not interested

NAME: _____

JOB: _____

SHIFT WORKED: _____
(6-2, 2-10, 10-6, or other)

Form used to gather demographic data on the officer trainees and controls.

Personal Data Form for Correctional Officer Training

Name: _____ Age: _____
Last First Middle

Address: _____ How long? _____
City County State

Place of Birth: _____ Date of Birth: _____
County State Month Day Year

Marital Status: (circle) Married Single Divorced Separated

Name of Spouse: _____ Age: _____
Last First Maiden

Number of Children: _____

Religious Affiliation: _____

Organization Affiliations: _____

_____

_____

List any honors or awards you have received: _____

_____

_____

How long have you been employed by the Board of Corrections as a correctional officer? _____

Previous Employment:

Position	Duties
_____	_____
_____	_____
_____	_____

In which of the following have you served? (circle)

Army Navy Air Force Marines Coast Guard None

Date of service: _____

Where have you lived the majority of your life? _____

Circle the highest grade completed:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Other training:

Type	Location

List any hobbies or other interests you have:

BEHAVIORAL OBSERVATION FORM

Officer _____ Date _____ Page _____

Shift _____ Weather (Circle one of each)
1. inclement - cloudy - clear
2. warm - mild - cold

Location _____ Number of inmates supervised ____.

A. Interaction Number	B. Notes (area, time, duration and situation)	C. Verbal Contact Behavior[a]		D. Type of Communication		E. Initiator[b]	F. Person(s)		G. Officer's Response[c]
		Rate +, -, or 0.		Check one (✓)		Check one (✓)	(C) Officer (I) Inmate (P) Prison Staff (S) School Staff (O) (Specify)		(R) Reinforced (T) Terminated (P) Punished (I) Ignored
		Content	Tone	Personal	Business	Officer	Other	Number	

a, b - Put question mark (?) if uncertain.
c - If entry is questionable, provide information in the 'Notes' section for later evaluation.

Behavioral Observation Index (BOI) form used to record officer-inmate interaction.

M TECHNIQUE FOR EVALUATING CORRECTIONAL OFFICERS

I. Sort the correctional officers whom you know into five stacks based on their general caliber as correctional officers:

Stack 1 (Best)	Stack 2	Stack 3	Stack 4	Stack 5
1 ____	1 ____	1 ____	1 ____	1 ____
2 ____	2 ____	2 ____	2 ____	2 ____
3 ____	3 ____	3 ____	3 ____	3 ____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____

Inmate evaluation form used to rank order cards bearing the name (and later, the picture) of each correctional officer in the institution.

M TECHNIQUE FOR EVALUATING CORRECTIONAL OFFICERS

II. How punitive are these correctional officers? Rank them:

Stack 1 (Least Punitive)	Stack 2	Stack 3	Stack 4	Stack 5
1 _____	1 _____	1 _____	1 _____	1 _____
2 _____	2 _____	2 _____	2 _____	1 _____
3 _____	3 _____	3 _____	3 _____	3 _____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

M TECHNIQUE FOR EVALUATING CORRECTIONAL OFFICERS

III. How concerned about the welfare of inmates are these correctional officers? Rank them:

Stack 1 (Very Concerned)	Stack 2	Stack 3	Stack 4	Stack 5
1 _____	1 _____	1 _____	1 _____	1 _____
2 _____	2 _____	2 _____	2 _____	2 _____
3 _____	3 _____	3 _____	3 _____	3 _____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

M TECHNIQUE FOR EVALUATING CORRECTIONAL OFFICERS

IV. How fair are these correctional officers in dealing with inmates? Rank them:

Stack 1 (Very fair)	Stack 2	Stack 3	Stack 4	Stack 5
1 _____	1 _____	1 _____	1 _____	1 _____
2 _____	2 _____	2 _____	2 _____	2 _____
3 _____	3 _____	3 _____	3 _____	3 _____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Inmate evaluation form used to determine which officers had changed and how (discontinued).

1. Name three correctional officers who have changed during the last two weeks.

_____

_____

_____

2. How have these officers changed?

Form used to gather information about practicum exercises (first and second groups of trainees only).

CONFIDENTIAL NO._____

1. Did you implement a program, i.e., did you record baseline data?

   Yes _____ No _____

   a. If yes, go on to question #2.

   b. If no, why not? _____

   _____

   Go on to question #5.

2. Did you start a treatment phase?

   Yes _____ No _____

   a. If yes, go on to question #3.

   b. If no, why not? _____

   _____

   Go on to question #5.

3. Did you complete treatment?

   Yes _____ No _____

   a. If yes, were you satisfied with the effect? Why or Why not?

   Yes _____ No _____ Why or Why not? _____

   _____

   Go on to question #4.

   b. If no, why not? _____

   _____

   Go on to question #5.

4. Did you return to baseline conditions following treatment?

   Yes _____ No _____.

   a. If yes, were you satisfied with the effect? Why or why not?

   Yes_____ No _____ Why or why not? _____

   _____

   Go on to question #5.

   b. If no, why not? _____

Go on to question #5.

5. Who in the institution supported your project and/or the projects of other trainees the most? How?

WHO	HOW

6. Who in the institution interfered with your project and/or the projects of other trainees the most? How?

WHO	HOW

7. What changes in the institution do you feel should be made to allow you to do this kind of work more easily or effectively?

8. What did you get out of the project?

Forms used by the trained officers in conducting their practicum exercises. The reduced format was used to eliminate bulk.

COMPUTATIONAL FORMULAS

INDIVIDUAL BEHAVIOR RECORDS

ONE-SHOT

No computation necessary.

CONTINUOUS RECORDING

Compute the total amount of time you have looked for the behavior each day.

$$\text{Daily Rate} = \frac{\text{Total number of behaviors you observed}}{\text{Total amount of time you spent looking}}$$

TIME SAMPLE

Determine the total number of times you look for the behavior each day.

$$\text{Daily Percent} = \frac{\text{Total number of behaviors you saw}}{\text{Total number of times you looked}}$$

INDIVIDUAL BEHAVIOR RECORD

ONE-SHOT

Name _____

Behavior _____

Correctional Officer _____

Date	Behavior Yes/No		Notes

INDIVIDUAL BEHAVIOR RECORD

CONTINUOUS RECORDING

Name _____

Behavior _____

Correctional Officer _____

Date	Time Start	Time Stop	Total Time	Number Behaviors	Daily Rate

INDIVIDUAL BEHAVIOR RECORD

TIME SAMPLE

Name _____

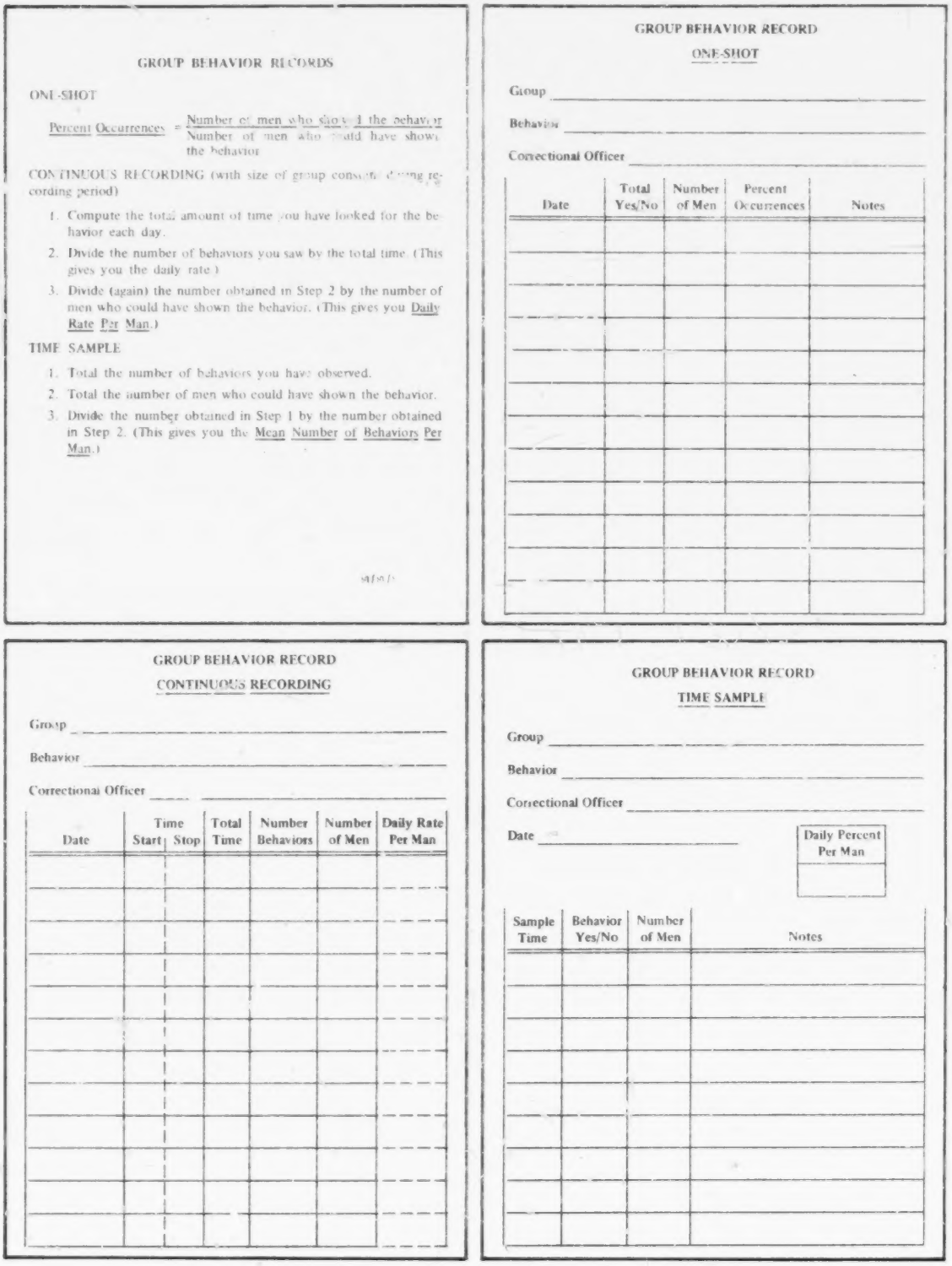
Behavior _____

Correctional Officer _____

Date _____ Daily Percent

Sample Time	Behavior Yes/No	Notes

Forms used by the trained officers in conducting their practicum exercises. The reduced format was used to eliminate bulk.



GROUP BEHAVIOR RECORDS

ONE-SHOT

Percent Occurrences = Number of men who showed the behavior / Number of men who could have shown the behavior

CONTINUOUS RECORDING (with size of group consistent during recording period)

1. Compute the total amount of time you have looked for the behavior each day.
2. Divide the number of behaviors you saw by the total time. (This gives you the daily rate.)
3. Divide (again) the number obtained in Step 2 by the number of men who could have shown the behavior. (This gives you Daily Rate Per Man.)

TIME SAMPLE

1. Total the number of behaviors you have observed.
2. Total the number of men who could have shown the behavior.
3. Divide the number obtained in Step 1 by the number obtained in Step 2. (This gives you the Mean Number of Behaviors Per Man.)

GROUP BEHAVIOR RECORD

ONE-SHOT

Group _____

Behavior _____

Correctional Officer _____

Date	Total Yes/No	Number of Men	Percent Occurrences	Notes

GROUP BEHAVIOR RECORD

CONTINUOUS RECORDING

Group _____

Behavior _____

Correctional Officer _____

Date	Time Start	Time Stop	Total Time	Number Behaviors	Number of Men	Daily Rate Per Man

GROUP BEHAVIOR RECORD

TIME SAMPLE

Group _____

Behavior _____

Correctional Officer _____

Date _____

Daily Percent Per Man

Sample Time	Behavior Yes/No	Number of Men	Notes

Certificate presented at the completion of training.

Rehabilitation Research Foundation

This is to certify that

_____

has successfully completed the requirements of the Experimental Manpower Laboratory for Corrections' Training in Behavior Modification

WILLIAM M. FORDREN
Commissioner of Corrections
State of Oklahoma

JOHN M. McKEE
Executive Director
Rehabilitation Research Foundation

JOHN C. WATKINS
Warden
Draper Correctional Center

ROBERT D. SMITH
Project Director
Correctional Officer Training

APPENDIX C

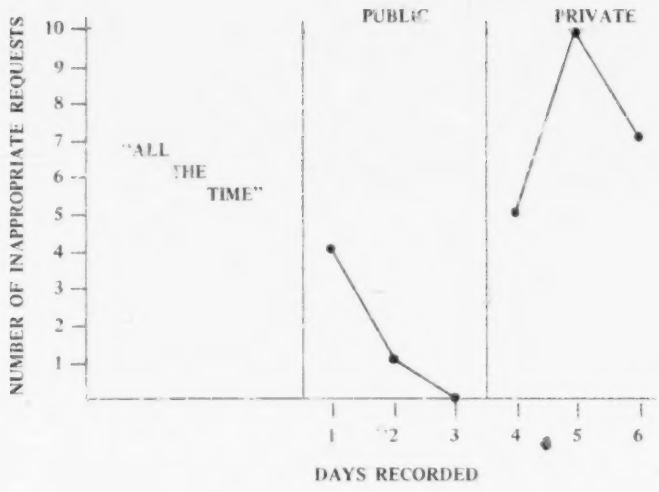
Sample Practicum Exercises

The following practicum exercises are a representative sample of the kinds of projects the first and second groups of officers undertook.

Project 1

Correctional officers are commonly asked by inmates to obtain things or render services which, under departmental regulations, they are prohibited from doing. One officer indicated that this occurred with such frequency that it hindered him in effectively performing his job. He indicated that inmates made inappropriate requests (defined as requests with which he could not comply) of him "all the time." Such subjective information, although important in identifying potential problem areas, should be considered only as an indication of what is actually occurring. More objective data must be collected for at least two reasons. First, the actual frequency with which the phenomenon occurs must be specified to determine whether it is indeed a problem which requires remediation; and second, if it is found to be a problem warranting concern, these data will provide a baseline against which the effects of the instituted correction procedure can be assessed. Only by establishing a baseline is it possible to determine the impact of the procedures the officer employs upon inmate behavior.

At the time of the project the correctional officer worked the day shift as a hall officer, being in potential contact with all inmates of the institution. He used a wrist counter to record the number of inappropriate requests he received. During the first three days of recording the officer wore the counter on his wrist and performed his counts in the presence of the inmate making the request. If the inmate inquired what the officer was doing, the officer informed him that he was keeping a record of the number of requests made of him with which he could not comply. The number of such requests for the three days of "public" recording are presented in Figure 1. Inspection of that figure indicates that on the first day the officer received only four inappropriate requests: on the second, one; and on the third, none. (It should be noted that each daily record consists of all such requests made of the officer during the *entirety* of his eight-hour workday.) At the end of the third day the officer indicated that he believed that the public recording procedure had markedly reduced the frequency with which inmates made requests and was therefore not an adequate measure of the problem he had been experiencing.



During the next three days, the officer recorded all inappropriate requests "in private," i.e., rather than wearing the counter on his wrist, he kept it in his pocket and surreptitiously recorded such requests. Figure 1 indicates that during the first day of private recording the frequency of inappropriate requests rose to 5; on the second, to a high of 10; and on the third, dropped to 7. The officer reported that this was about the frequency with which they had occurred before public recording, and that the problem was not as severe as he had once thought.

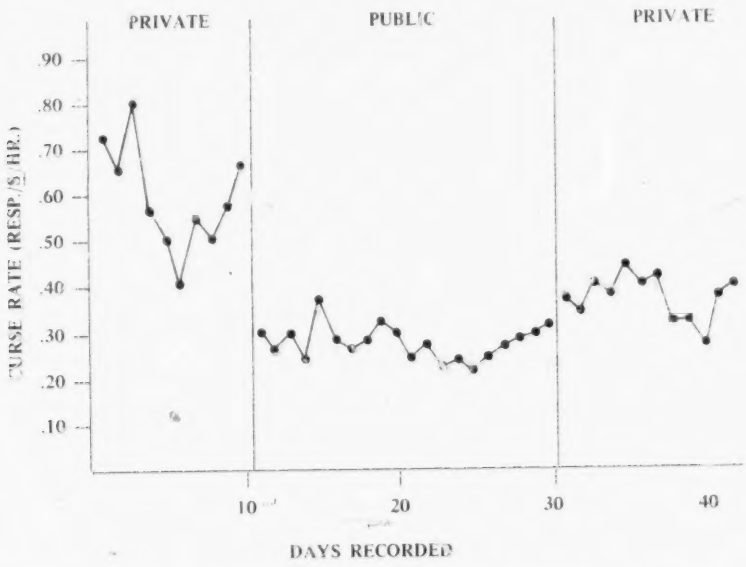
The officer's comment that inmates made inappropriate requests of him "all the time" appears to be a bit of an overstatement. (The officer concurs.) The importance of collecting objective data when contemplating any correction procedure becomes obvious when viewed within the context of the present demonstration. In addition, the potential of merely recording the occurrence of undesirable behavior as a form of correction is shown by the comparison of the data recorded publicly and privately. Although three days are far from enough to assess the effects of public recording, it does suggest that the officer may use this technique to influence inmate behavior. The second project examines this idea in more detail.

Project 2

The results of Project 1 indicated that public recording of a problem behavior in and of itself has the potential of exerting a remedial effect. To further test this hypothesis

an officer in charge of a farm squad instituted a program to reduce inmate cursing while on the job. Although not a serious problem, the officer considered it "bothersome" and commented that "no one likes a foul mouth." He also said that if he were an employer he would require his employees to either stop their cursing or find a new job.

The officer used a wrist counter which, during the first 10 recording periods, he carried in his pocket and privately counted instances of cursing. Examination of Figure 2 indicates that the median curse rate during the first 10 days of recording (private) was .57 curses per hour per man. Although not an exceedingly high figure, the officer reported that a small number of men did the majority of the cursing, and that rather than using single words, they emitted long series of profanities. Starting on the eleventh day and continuing through the following 19 days, the officer placed the counter on his wrist and recorded publicly, informing the members of the squad of his actions. The median curse rate during these 20 days dropped to .28, which is significant as indicated by the median test ($X^2 = 15.68$, df = 1, $p < .05$).



In addition, the officer indicated that the men who had previously cursed at length now uttered only one or two profanities, a change not indicated by the recorded data. He commented that the cursing was no more than he would expect among a group of workers in the "free world."

On the 31st day the officer returned to the private recording procedure used during the first 10 days of the project. Although there was a slight but significant increase in curse rate ($X^2 = 14.93$, df = 1, $p < .05$), the median rate of cursing during this period

was only .38, lower than those first 10 days. Findings such as these point out the potential of the correctional officers as behavior change agents. By merely communicating his concern over a particular phenomenon and then recording its occurrence, he changed it in the direction in which he desired. In addition, in the return-to-baseline phase (the last 12 days of recording), he was able to demonstrate two things: one, that the recording procedure itself was responsible for the maintenance of a portion of the change in behavior; and two, once the officer has demonstrated his concern and started the inmates in the desired direction, there is a good chance that the new behavior will be maintained in the absence of the conditions which first instituted change, most likely by other social reinforcers which may now be forthcoming for incompatible behavior.

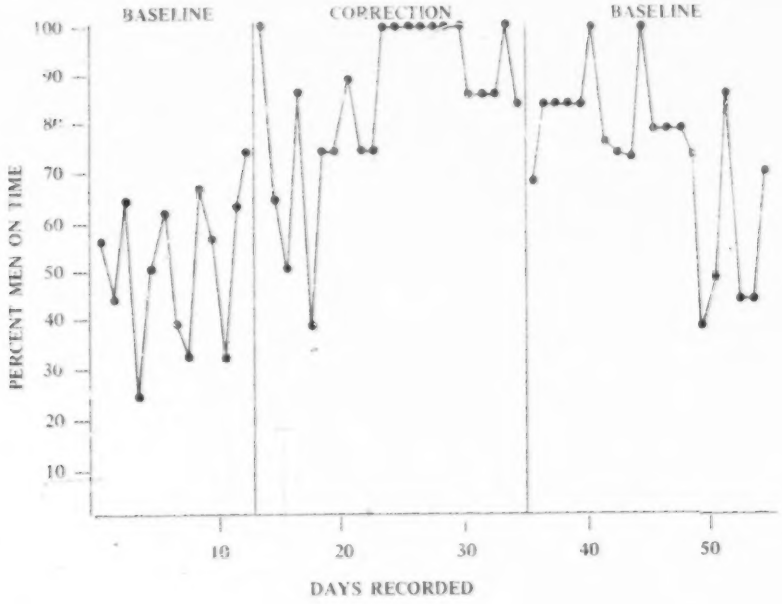
Project 3

A common problem faced by correctional officers in supervisory positions is that of encouraging inmates to report to work on time and, once there, of keeping them on the job. The officer in charge of the clothing room was faced with the former problem. He indicated that nearly half of his men were late for work every day and that the "conventional" methods of encouraging promptness either did not work or were not practical in his situation. (Quite often a deviant is threatened with transfer to a less desirable job if he does not "straighten up," but the officer was reluctant to follow through with this threat because the men under his care were good workers once they got there.)

Thirteen days of baseline recording revealed that there was indeed a high percentage of tardiness: the median percent of men on time during these 13 days was only 57. The correction phase consisted of announcing to the workers that the officer was concerned that all men arrive on time and start together because each man's job was dependent upon the others', and that if one or two men were not there, it retarded the work of all. He also announced that all men who arrived on time would be let off at the end of the eight-hour shift, and the latecomers would have to report again for the evening shift (an additional two hours). The prompt inmates would, in effect, be able to get off work earlier than they normally would, while latecomers would have to carry the two-hour evening shift with less than a full staff.

Examination of Figure 3 reveals that the correction procedure initiated on day 14 was highly effective–the median number of men reporting on time increased to 85%, which the median test indicates is significantly different from baseline ($X^2 = 12.85$, df = 1,

$p < .05$). In addition, the variability seen during the first half of the correction phase appears to be eliminated during the second phase, and a fairly stable, high level of promptness appears to have emerged.



However, it is impossible at this stage to determine whether it was the officer's emphasis upon promptness and teamwork which resulted in the shift in performance, or if it was the contingency of earning the privilege of leaving on time with no further work assignment. During the third phase the officer returned to the work schedule in force during the first 13 days of the project--i.e., all men were required to be on time and work the entire eight-hour shift, plus an additional two hours in the evening. As is evident in Figure 3, the return to the baseline condition resulted in a general deterioration of promptness, which is indicated as significant by the median test ($X^2 = 8.37$, df = 1, $p < .05$).

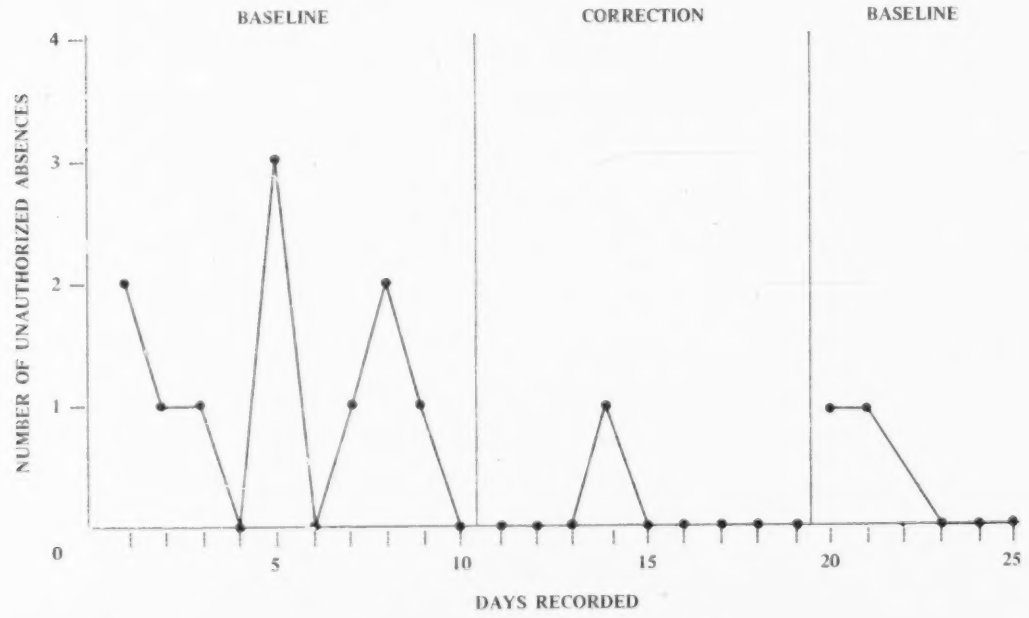
Findings such as these reveal that it is the correction procedures themselves and the systematic application of the specified contingencies which give the correctional officer the power to become a change agent in the institution. Baseline data reveal that, by and large, the officer can identify problem areas but that without the added power of the use of behavior modification techniques and procedures, all he can hope to do is maintain the *status quo*. The level of performance evident during baseline reveals the effect of his "best effort" prior to the applications of the methodology taught in the training project.

Project 4

The problems reported in Project 3 were similar to those experienced by the kitchen steward. Rather than having a large number of men reporting to work late, he reported that a small number of men left the kitchen area without authorization for varying periods of time. Like the officer in charge of the clothing room, however, he was reluctant to have the men transferred to a less desirable job because they had been through the lengthy training regimen necessary for kitchen work and, hence, were too valuable to lose.

Ten days of baseline indicated that the number of unauthorized absences each eight-hour day ranged from zero to three, with a median of one. The officer indicated that two men were responsible for the majority of the absences, and that, since he only spot-checked, he was sure that he was not catching all such absences. The correction phase was initiated on the eleventh day when the officer informed all workers that he expected each man to work a full eight hours and, unless they asked and received permission to leave, any man found missing would be required to make up that time at the end of the shift. In effect, inmates who were absent without authorization would be kept late for a period of time equal to the time absent as estimated by the steward.

Examination of Figure 4 indicates that during the 10 days in which the correction procedure was in effect there was a marked drop in the number of unauthorized absences. The median test indicates that this drop was significant ($X^2 = 4.54$, df = 1, $p < .05$). In addition, the 5 days recorded in the return-to-baseline condition suggests that the 10 days of treatment had a lasting effect, with the differences between the latter two phases not significant ($X^2 = .60$, df = 1, $p < .05$).

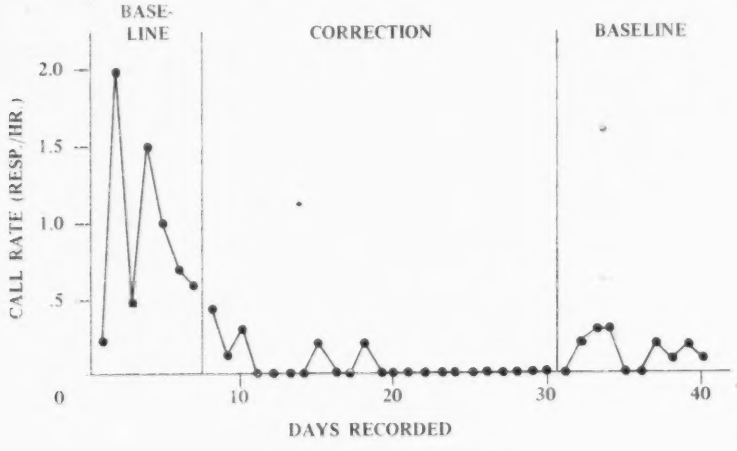


However, this finding, when considered in conjunction with the fact that only five days of records were kept during the last phase, should not be considered sufficient proof of the long-term effect of this procedure.

Project 5

"Fred H. cannot be changed." This was the unanimous opinion of the officers in training. He had been around the institution for years and all efforts to extract work from him had failed. "Fred is just plain sorry. He's a goldbrick. He won't work. Sent him to the 'doghouse,' put him on a good job (the kitchen), put him on a bad job (the farm), and it had no effect. He would not work. All Fred likes to do is sit on his bunk, talk, and play cards." Threats, punitive isolation, withdrawal of privileges, etc., would not make him a conscientious worker.

Fred's present assignment was that of hall sweeper. His task was to keep the main hall of the institution clean from 6 a.m. to 10 p.m. (a coveted job, for it entailed at most a total of four hours' work and was an "inside job"). The correctional officer who supervised him for a portion of the day indicated that Fred was not performing satisfactorily. Ideally, Fred would "keep an eye" on the hall and clean it when necessary. However, the officer spent more time looking for Fred to bring him to his job than Fred spent working, and neither sincere "talking to" nor threats made any improvement. Seven days of baseline recording of the number of times the officer had to look for Fred produced a median rate of .65, or slightly more than once every two hours.



The correction procedure, which began on the eighth day, stressed "time out" from those things which Fred appeared to enjoy–talking with his friends and playing cards. This was accomplished by finding Fred when necessary, having him sweep the hall, then sitting him in a room by himself for 30 minutes, having him sweep the floor again, and releasing him. The officers were in accord–"this would not work," for long periods of punitive isolation, extra work, etc., had not. The median number of times the officer had to search Fred out during the correction phase dropped to zero, a significant improvement in his behavior as indicated by the median test ($X^2 = 10.63$, df = 1, $p < .05$).

The return to baseline phase produced a significant deterioration in Fred's performance ($X^2 = 5.08$, df = 1, $p < .05$), indicating that the implementation of this basic behavior modification procedure has the potential of being as effective in the correctional institution as it has been demonstrated to be in other settings. In addition, the behavior during the second baseline condition appears superior to that during the first baseline, indicating that treatment had a long-lasting effect. Finally, the officer who implemented this program (convinced as he was that it would not work) earned the distinction of being the only man in the institution who could change Fred H.

APPENDIX D

The Q-Coefficient

THE Q-COEFFICIENT

Because the primary reference for the Coefficient of Colligation, Q (Jenkins & Hatcher, 1973), is presently in press, this brief explanation is presented for those readers who may be unfamiliar with the technique.

The Q-Coefficient is a short-cut procedure that, like the Phi Coefficient, is an approximation to the Pearson Product-Moment Correlation. It was originally developed by G. Udney Yule in 1937 (Jenkins & Hatcher, 1973) and rediscovered by Jenkins in 1970. Q is, essentially, a correlational index of the degree of covariation between two variables, e.g., experimental treatment and behavioral measurement. It is equally applicable to continuous and discrete measurements.

To determine Q, all data are sorted high and low, pivoting on some dividing point (positive-negative, grand median, mean, etc.). A standard two-by-two table classifies subjects into two conditions (e.g., experimental [E] or control [C]) and high and low scores. The Q-Coefficient then assesses the intensity of relationship between the two variables, as shown below:

	E	C
Hi	A	B
Lo	C	D

$$Q = \frac{AD - BC}{AD + BC}$$

The larger the Q, the greater the relationship between the variables is. The significance of this relationship is determined in the usual way by both the magnitude of Q and the size of the total N.

As an example, Q was determined from EMLC longitudinal follow-up data, using law violation as one variable and score on the Environmental Deprivation Scale (EDS) as the other. A high score on the EDS indicates environmental deprivation, meaning that the subject is not cued into or receiving support (reinforcement) for socially acceptable behavior.

EDS Score	Non-Law Violators	Law Violators
Hi ($\geq$ 11)	4	34
Lo ($\leq$ 7)	20	6
Total	24	40

$$Q = \frac{(34)\ (20)\ -\ (6)\ (4)}{(34)\ (20)\ +\ (6)\ (4)} = .93$$

The Q of .93 directly reflects and summarizes what is immediately apparent in the table: most law violators have high environmental deprivation (85%) and most non-law violators have low deprivation (83%).

The Q-Coefficient is a probe technique that yields a quick and efficient numerical summary of the magnitude of covariation between experimental treatment and behavioral measurement. While not mathematically elegant, Q is easily understood and quickly applied. It has the decided advantage over the traditional Chi Square statistic of providing an estimate of the degree of relationship involved.

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